NEW-YORK FARMER,

AND

AMERICAN GARDENER'S MAGAZINE.

VOL. IX.] PUBLISHED MONTHLY, AT NO. 132 NASSAU STREET, NEW-YORK, AT THREE DOLLARS A-YEAR, IN ADVANCE. [No. 3.

D. K. MINOR, PROPRIETOR.] FOR MARCH, 1836. [NEW SERIES—VOL. IV.

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STATE HISTORICAL SOCIETY
816 STATE STREET
MADISON, WISCONSIN 53706

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NEW-YORK FARMER.

MARCH 1, 1836.

STATE AGRICULTURAL SOCIETY.—We give, in this number, the proceedings of the State Agricultural Society of New-York, held at Albany, on the 11th of February last.

At this meeting were assembled many of the most intelligent and enterprising citizens, from different and the extreme parts of the State, for the purpose of contributing to a general fund, upon which every agriculturist in the State, and even in the *universe*, may draw, at pleasure, without fear of having his drafts dishonored; and from which, we doubt not, will flow numerous fertilizing streams of useful information to every part of the State.

With the fostering care, and the zealous support of such men as attended the State Society, and the late Agricultural Convention at Albany, we entertain high hopes of the establishment of an Agricultural Institution, at the Capital of the State, in which may be instructed *teachers* of the science of Agriculture, and practical husbandry. With such an institution, and a more general circulation of agricultural publications among practical, or laboring farmers, and especially among the rising generation, we may anticipate, with great confidence, a rapid improvement in the mode of cultivating the soil, as well as in the breed of our domestic animals.

The address of Mr. Yates should be read with attention, and its sound maxims and instructive lessons carried into useful practice.

His closing remark, "*educate thoroughly your whole community*," is worthy of being stamped in letters of gold, on tablets of steel, and hung in all the public places of the land; as it is that, if any thing, which is to perpetuate the institutions of our happy country.

ESSEX, MASS., AGRICULTURAL REPORT.—We are indebted to a friend for a copy of the Report of the Essex, Mass., Agricultural Society, for 1835. It is, as the publications of that Society always are, highly interesting and valuable. In the proceedings of this Society will be found additional evidence, if it were necessary, of the importance to the country of Agricultural Societies, and of the great advantages resulting to individuals from public exhibitions.

The address of DANIEL P. KING, Esq., which we give entire, is characterised by sound sense, and much practical knowledge; and we ask for it and the Report of the Committee on Farms an attentive perusal. They cannot be read by any person, not even by those who repudiate "book farming," who will not derive many useful hints from the facts therein recorded, and so plainly set forth.

It is plain to us, that such records of facts are as useful, and tend as much to improve and advance the science of agriculture, as the publication of facts elicited by experiments in chemistry, or of discoveries made in astronomy, tend to improve those sciences. We again, therefore, urge an attentive perusal of them.

We shall make further extracts from this Report in our next.

LARGE LEMONS.—We have before us three beautiful lemons of a large size, cultivated by Mr. Daniel Youngs, of Oyster Bay, L. I., in his parlor, from a scion brought from South America. The tree, we are informed, presents a beautiful appearance, having over thirty lemons on it of different sizes and colors—from the pale green of incipient growth, to the deep yellow of maturity. Those now before us grew in a cluster on one stem.

We are promised a history of the tree, and an account of the mode of cultivation, which, as it may be interesting to some of our readers, we shall give in a subsequent number.

SUCCESSFUL FARMING.—We ask the attention of our readers to the following communication of Mr. BEMENT, of Albany. It ought certainly to convince those who ridicule the idea of deriving instruction from *agricultural publications*, that they are not without their use and value. They must certainly admit, that even a *printer*, with the aid of agricultural papers, good sense, and proper care, can at least "make the two ends meet," which is as much as many do who have enjoyed the superior advantages of a long apprenticeship to agricultural labor—and which they seem to think renders further instruction unnecessary—whereas in truth, they are then only just prepared to learn by *reading*, *reflection*, and *experiment*.

The "lessons" of the "grandfather" should be learned and practised upon by every farmer in the country.

Mr. Bement is always ready and pleased to exhibit his stock of cattle, sheep, and hogs, to those who take an interest in such animals, and also to explain his mode of farming; and he enjoys superior advantages for *demonstrating* the excellence of the productions of his farm, in serving them up, in superior style, at his HOTEL in State street, to those who are so fortunate as to make his house their home while in Albany.

For the New-York Farmer.

SUCCESSFUL FARMING.

MR. MINOR:

Sir,—In my letter to you of January 27th, 1835, I said, "my farming operations had necessarily been very limited," &c. &c. Another season has passed, and I embrace a few leisure moments to give you some account of my success, on the same farm; not, however, in the way of boasting, but to show you that I have not been unsuccessful. The farm consists of 110 acres, and put down in the tax-book second and third-rate land—80 acres in cultivation, and the remainder wood, of which I only had the privilege of cutting for fencing. Rent four hundred dollars per annum.

It was considered by many as a very high rent,—a very hazardous undertaking, and that I never should get enough off to pay rent and meet expenses; which, in fact, was the case the first year, as I was minus two hundred and thirty dollars. I could, however, account for it, in repairing and altering the stables for my cattle, building pig-stye, digging well, draining, repairing, and making new fences, drawing manure from the city,—the benefits of which I received the next year. Of my success you can form an opinion from the statement below. For certain reasons I have withheld the nett proceeds. Suffice to say, I have made up the deficit, and added to my capital.

I am a mere novice in farming—I am by profession a printer—it is new business to me—I have much to learn, and for what little I do know, I am indebted to agricultural publications, and to lessons derived from Mr. Buel, and other eminent farmers, who I am proud to number among my acquaintance.

The question is often asked me, "Where did you imbibe your notions and taste for farming?" My answer is, "When a boy, eight or nine years of age, I used to 'ride horse' for my grandfather, to plough corn; and if, perchance, I should allow 'old Dobbin' to tread upon a hill of corn, look out for a lump of earth at the urchin's head!!!" He is now dead and gone—but the lessons he taught me are still fresh in my memory. He was a good farmer—he had a time for every thing, and every thing must be done in time—a place for every thing, and every thing in its place. His fences were always

in good order—his buildings in good repair. His stock fed regularly, and at regular hours; not feeding to surfeit one day, and half starving them the next. In short, he had a system, and followed it strictly—and *made money by farming too!!* His pork-barrel and granary were never empty. He never ran up accounts with the merchants, nor run in debt because his credit was good. He lived to a good old age: and died, as he lived—an honest man. Peace to his ashes.

On looking over my sales-book, I find the following articles passed to the credit of the farm:

Cattle, consisting of 1 cow and 7 calves, (Durham short horn,)	$825 00
Sheep, consisting of bucks, ewes, and lambs, for breeding,	615 00
Pigs, principally for breeders,	276 00
Milk sold, besides feeding the calves,	157 80
Pasturing cattle and horses, exclusive of my own stock,	136 13
Potatoes sold for family use,	615 69
Ruta Baga turnips, 487 bushels, at 20 cents per bushel,	97 40
Barley, 100 bushels, at 80 cents,	80 00
Millett, including the straw, which I think equal to hay,	71 00
Buckwheat, 24 bushels, at 50 cents,	12 00
Oats, 150 bushels, at 50 cents,	75 00
Hay, 12 tons, at $17½ per ton,	210 00
	$3,171 02

In the above I have made no account of what remains on hand, nor of what was consumed on the farm. My potato crop was a good one, amounting to over 2300 bushels, and all of the choicest kinds, for table use, and which are less prolific than the more common sort. My hay crop was not as good as the year previous; and I was not alone in that, for very few of the best cultivated farms in this county gave over half a crop.

In July last, I purchased of S. Hawes, Esq., a farm, consisting of 184 acres of land, formerly the property of Judge Spencer, lying 3½ miles west of this city, where, should my life and health be spared, my future efforts will be directed, principally in rearing superior animals for sale—such as cattle, sheep, and swine; and hope, by unremitted care and attention, to deserve a share of public patronage. My cattle are of the pure "Improved Durham Short Horned" breed; sheep of the "South and Hampshire Down," "New Leicester," and pure "Merino" breed; swine of the "Imported Berkshire," "Improved China,"—some females of the "Mackey" and "Mocho," which I am crossing with my Berkshire and China. I have also made arrangement to procure the "Bedford;" and it is my intention to procure the best breeds our country affords, so that I can test their peculiar and individual qualities, by comparison and demonstration; keeping each breed pure, as well as experimenting by crossing with the different varieties.

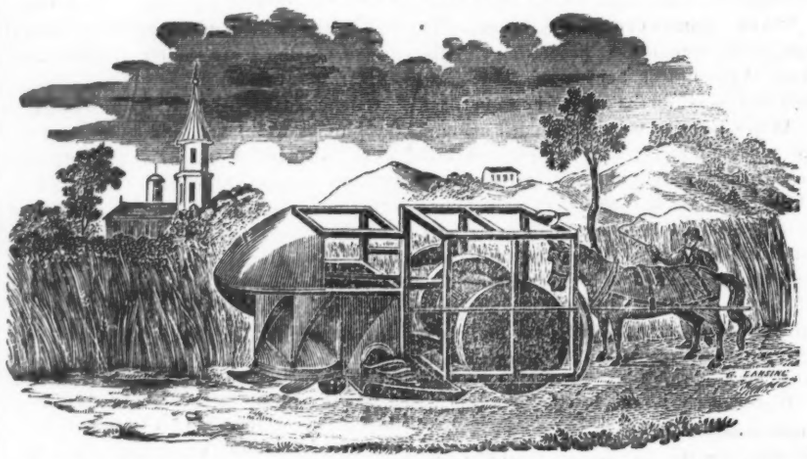
No animal on the farm has been more generally neglected than the hog, and it is my opinion, no animal will pay better, with proper care and attention to breed, for the expense incurred. But they require care and attention, which farmers and laborers are too apt to neglect.

Fearing I may trespass too much on your time, as well as that of your readers, I will conclude, by promising you, should it be agreeable, an account of my success in cultivating the Ruta Baga.

Very respectfully,
Yours, &c. &c.
CALEB N. BEMENT.

Bement's Hotel, Albany, March, 1836.

MOWING AND GRAIN CUTTING MACHINE.



A model of a machine for the above purpose was exhibited last fall, at the Fair of the Mechanics' Institute in this city, by the inventor, Capt. Alexander Wilson, of Rhinebec, from which model the above engraving was taken. It was pronounced by many, who, we have reason to suppose, were competent judges, to be superior to any other plan which has hitherto been exhibited, and Capt. W., who is himself a practical farmer, has tested it by sufficient experiments to give him perfect confidence in its success. He is now having the machines built for actual use, at the machine shop of Mr. Fuller, in Waterford, under the direction of Mr. Fairman, whose mechanical talents are not surpassed, to say the least, by those of any other man in this State. There is now building one calculated to cut twelve acres of grass or grain per day, and to be operated and managed by one horse and boy, without any other assistance. The grass will be spread by the machine, and the grain left in swarths for raking and binding.

There are many farmers who have a few acres of meadow so formed by nature as, perhaps, to render this machine forever useless on them; and there are others who cannot afford the time and labor to remove a few stones, and render their meadows smooth. Both these classes will probably condemn, or at least ridicule the use of a mowing machine. But there is a large number, and the proportion is rapidly increasing, who possess large tracts of both grass and grain land, who will decide very differently, and it is fortunate that this class of gentlemen possess not only the disposition but the means to encourage such an improvement. But though a large proportion of the lands east of the Alleghany, where this machine will be highly useful, still the maximum of its usefulness will be on the western prairies, where, with a strong team of two or more horses, it will prove the most efficient pioneer that ever smoothed the surface of a new country. We cannot but hope that an invention of so much promise will receive from the public a fair and candid trial, and the reward it merits.

For the New-York Farmer.

MONMOUTH AND MIDDLESEX AGRICULTURAL RAILROAD.

The Legislature of New-Jersey, at the session just terminated, incorporated a Company to construct a Railroad from the Delaware and Raritan Canal, at or near Scudder's mill, (which is near Princeton,) to the village of Freehold, (the county town of Monmouth,) from thence to the marl beds on Manasguan river; also a Railroad from the village of Freehold to the tide waters of Raritan Bay, at Middletown Point, with a capital of $500,000, and a privilege of commencing the work when $85,000 shall be subscribed: and providing that the road shall be built within ten years. These will be strictly agricultural Railroads, and the transportation of the valuable marls will furnish the largest item of their income, although the transportation of mineral coal, lime, lumber, merchandise, passengers, and agricultural produce of various kinds on said roads, will be considerable. Time will not now permit me to go into a detail of the many benefits to be derived from the construction of these roads; and for the present I can only advert to a few facts, and

make further particulars the subject of another communication.

A report of a Geological Survey of New-Jersey, authorized by the Legislature, and made by Henry D. Rogers, Professor of Geology and Mineralogy in the University of Pennsylvania, has just been published, from which I shall give you some extracts, to show the astonishing fertilizing properties of the marls to be transported on these Railroads: "The high, and deservedly high, name which the Squancum marl now boasts, was an inducement to me to subject it to chemical examination with especial care and rigor." "At the pits, which are very extensive, the marl is sold at the rate of 37½ cents the load. It is transported in wagons to a distance, in some directions, of 20 miles, and retailed, when hauled that far, at the rate of 10, or even 12½ cents per bushel—being very profitably spread on the soil at the rate of 25, or even 20 bushels to the acre. The fact that so small an amount of this marl is found efficacious to the soil, which, after two or three dressings, is permanently improved, and to a high pitch, by it, furnishes me one consideration for supposing that too generally the marl is spread with a prodigality surpassing all the necessities of the land."

A specimen of the marl from Thrap's lowest layer, yielded me, after reiterated trials, uniformly about the following for its composition:—

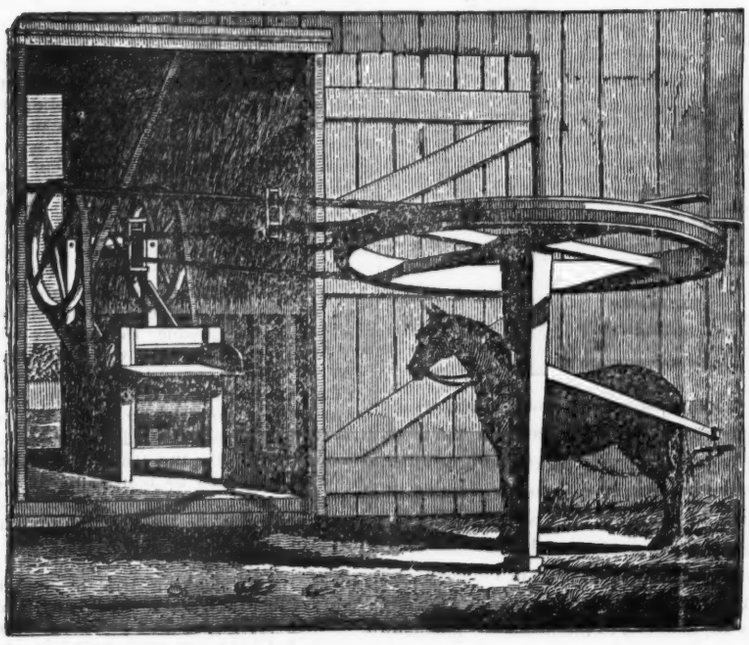
Silica,	43.40
Protoxide of Iron,	21.60
Alumina,	6.40
Lime,	10.40
Potash,	14.48
Water,	4.40 in 100 grains.

"The quantity of potash is so remarkably great, that I have been led to assure myself of the true proportion by several analysis, proving the results by adopting different modes of separating the potash."

When these Railroads shall be made, vast quantities of this marl may be transported to distant places on the Delaware and Raritan Canal and the waters of Raritan Bay, the Hudson and East Rivers, and afforded on any of the landings within 50 or 60 miles of New-York, for about 10 to 15 cents per bushel, and I consider it decidedly more valuable than leached ashes.

CINCINNATUS.

THRESHING MACHINE AND HORSE POWER.



The above engraving represents a threshing machine and horse power, invented by Mr. John Shaw, of Augusta, in the county of Kennebeck, and State of Maine, which, taking them on all accounts, are, perhaps, to be preferred to any other invention of the kind. They certainly appear to be less liable to disorder; the horse power embracing no complicated gearing, but doing the whole business with a strap and wheel; and the threshing part of the establishment is at least as simple and operative as any we have seen: and, what is a farther recommendation, we believe they cost less than any other in use.

A threshing machine, with a horse power to propel it, are a pretty heavy item of expense to the farmer, and those we have seen in operation are so liable to get disordered and become useless, and so absolutely unnecessary to the farmer's convenience, that we would advise any one who is about to purchase, to call and examine the above.—The whole concern is so simple, and so well represented by the above cut, that we deem any farther description unnecessary, especially as no one will probably attempt to construct without looking at the machines themselves. This apparatus may be seen and examined by calling on Mr. Barney, in Albany, who, we believe, is proprietor of the patent right for that vicinity.

From the Cultivator.

POLICERATE SHEEP.

Mr. BUEL:—Sir,—Having in my possession a variety of sheep, which are not very common in this country, I have procured a likeness of the oldest buck, engraved by Mr. Hall, of this city, who I think has done himself great credit in the execution.

I obtained three bucks and nine ewes, in October last, from a farmer in Bethlehem, who procured the buck figured above, some five or six years since, from which he bred several bucks with four horns. The breed was originally procured, as I have been informed, from some emigrants. I esteem them more for their odd and singular appearance, than for any intrinsic value they appear to possess.

The specimen represented above, is remarkable only for his horns. The upright ones measure, from the base, twenty-two inches.

Buffon says, "One of the curious modifications produced by cultivation in the domesticated sheep, consists in the augmentation of the number of its horns; two, three, or even four supplementary appendages of this description being occasionally procured in addition to the usual number. Under these circumstances, the additional usually occupy the upper and fore part of the head, and are of a more slender shape and take a more upright direction than the others, thus approaching in character to those of the goat's, while the true horns retain more or less of the spiral curve that distinguish those of the sheep. There exists a strong tendency to the hereditary propagation of its monstrosity, which is extremely frequent in the Asiatic races, but is also met with in a breed that is common in the north of Europe, and is said to have been originally derived from Iceland and Feroe Island. In the latter case it is unconnected with any other anamoly; but in the flocks of the nomad hordes of Tartary it is usually combined with the enlargement of the tail and adjacent parts, by the disposition of fat frequently to an enormous extent."

In the islands of the Archipelago, and chiefly in the island of Candia, there is a breed of sheep of which Bellon has given the figure and description, under the name of *Strepsicerus*. This sheep is of the make of our common sheep; it is, like that, clothed

with wool, and only differs from it by the horns, which are larger and rise upwards, but are twisted into spirals. The distance between the horns of the ewe enlarges towards their tops; those of the ram are parallel. This animal, which is commonly called the Wallachian sheep, is frequent in Austria and Hungary, where its name is Zacke.

The more cold districts of Iceland and Russia afford a *many horned breed* of sheep, of mostly from four to seven or eight; having a coat of dark brown colored hairy wool, weighing about four pounds, and covering an inferior quality of short soft fur.

In Cyprus many of the sheep are policerate, (having more than two horns.) They all spring from the frontal bones, the crest of which is elevated in a peculiar manner, in order to form their base. The central horns are usually straight, or somewhat divaricating—occasionally they are spiral; the lateral ones assume almost every possible variety of curve. A cut representing one of the most frequent appearance of the Cyprus four horned sheep, is figured in the "*Library of Useful Knowledge—Farmer's Series.*"

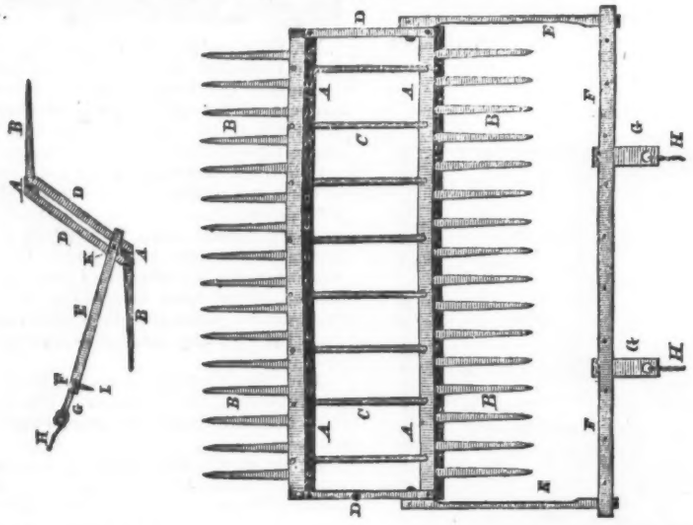
CALEB N. BEMNET.

Albany, Jan., 1836.

From the deep interest we feel in every thing which tends to facilitate the labor of the agriculturist, especially in the important branches of haying and harvesting, we presume our readers will be pleased with the following notice of an article, which has been well recommended to us from sources entitled to the fullest credit, and whose good opinions were the results of experience.

This machine is so simple and plain in its construction, as scarcely to need any other description than the following engraving.—We give the diameter for its proportion in the inventor's own words, and we also copy his advertisement on the cover of the Cultivator.

PUDNEY'S PATENT REVOLVING HORSE RAKE.



References.

A, A, heads. B, B, teeth. C, C, connecting rods. D, D, end bars. E, E, end shafts. F, F, cross-bar. G, G, short shafts. H, H, trace chains. I, short teeth in the under side of the cross-bar. K, slide pin.

Directions for making.

The heads may be from 7 to 10 feet long, and 2¼ by 3 inches diameter. In the edges, or narrowest sides of the heads, the teeth may be inserted into holes 1 inch in diameter, and about 6 inches apart. The teeth, including the tenon, may be 2 feet long, and an inch and a half in diameter at the shoulder; the other end being made sharp or pointed. The connecting rods may be about 2 feet 4 inches long, including the tenons, and an inch and a quarter in diameter. They may be either round or square. The end bars may be square, and an inch and a quarter diameter, and as long as the connecting rods. The holes in the head, into which the connecting rods are inserted, must be bored in an oblique or slanting direction, as shown by the end bars in the end view; the connecting rods, the end bars, and the tenons on the ends of the heads, all slanting in the same direction. The end bars are fastened to the heads by means of a bolt or rivet, which passes through them, as well as through the tenon on the ends of the heads. These tenons may be an inch in thickness. The cross-bar may be 3 or 3½ inches wide in the middle, and narrower at the ends. It may be — inches thick.—The end shafts may be 4 feet long, 2½ inches thick, and shaped as shown in the engraving. The short teeth may be 3½ inches long from the shoulder to the point, and inserted into holes three-fourths of an inch diameter, and one foot apart, in the under side of the cross-bar. The shoulder on the short teeth may be on the back side of them, and the holes into which they are inserted need not be bored more than half way through the cross-bar. The short shafts can bear about the proportion to the rest of the rake shown in the engraving. The size and proportions of the different parts can be varied to suit the work to be performed. If the ground to be raked is rough and uneven, a short rake will work much better than a long one. But if the meadow to be raked is smooth and level, and the owner wishes to rake fast, a rake 10, or even 12 feet long, can be used. For raking grain, on smooth ground, the rake may be made long enough to rake two swaths at once—the horse going between them.

From the Farmer and Gardender.

Linnæan Botanic Garden, Feb. 29, 1836.

MR. E. P. ROBERTS,—Noticing an article in your paper of the 23d instant, on the Morus Multicaulis, we will hastily pen a few lines, stating our views in a summary manner. First—we consider the Morus Multicaulis as an entirely distinct species from Morus Alba, and consequently we feel well assured that it will produce *precisely its like* from the seed—this being the character of species, and even being the case in many instances with strongly marked varieties.

The Chinese seed sown last season did not produce plants of the Morus Multicaulis, and therefore it has been asserted that *its seed* would not produce the identical tree. We should suppose the first point to be decided would be—was the Chinese seed the *genuine* Morus Multicaulis? It is of course well known that Morus Alba is a native of China, and far more common there than any other species, and is it not, therefore, most probable that they sent that which was most readily procurable? The error appears to have arisen from a supposition that because the seed came from China, it must of course produce that variety which we designate as Chinese, whereas there are several species and innumerable varieties in China. For our part, what surprises us most is, that the seed produced mulberry trees *of any variety*, for had it produced some noxious weed, like the tea seed announced some time ago as so flourishing in North Carolina, it would have been more in character with the vile trash which they have hitherto sent as valuable seeds. We will mention an instance that occurred with ourselves. After making trial of numerous importations of Chinese seeds, and finding them worthless, a friend presented us with sixty gilt China jars, each containing a different species of seed, which had been obtained expressly for him by his agent at Canton. We expressed doubts, but these were silenced, and the beautiful gilded jars aided to put them to rest, as we conceived none but the most valuable seeds would be put up in so careful and expensive a manner. We planted them with great care, but lo! only three or four kinds ever vegetated, and these were the common red Cockscomb, an Acacia, and some noxious weeds. Please excuse this digression.—The original Morus Multicaulis tree introduced to America, is still growing in our nursery, and it and others have produced fruit, which was dark red, or black, and if we recollect right, the flavor was not unpleasant. We have now

in our possession seeds of the Morus Multicaulis, and also seeds hybridized between it and another very superior large leaved variety, of much hardier character. The quantity of each is so small that we shall retain it for our own sowing—applicants for seed will not, however, have to wait many years before the supply will be abundant. We have heard it even intimated that the tree did not produce seed, whereas the reason why seed is not already plentiful is sufficiently obvious. So great has been the demand for the trees, and such is the ease of propagation from cuttings, that scarcely any trees have been allowed to retain branches for fruit bearing, the new wood which should produce fruit having been converted into scions. This explanation alone will account for the present deficiency of seed, which will become plentiful enough as soon as a portion of the trees are allowed to attain ample dimensions.

Yours, most respectfully,

WM. PRINCE & SONS.

From Hovey's Horticultural Magazine.

RESULTS OF THE CULTURE OF SOME OF THE NEW VARIETIES OF STRAWBERRIES, RECENTLY INTRODUCED INTO THIS COUNTRY; WITH THE METHOD ADOPTED.—BY THE HON. E. VOSE.

A good many persons having attempted the cultivation of the new large growing kinds of strawberries, with very various success, I will, agreeably to your request, state the results of my own experiments with some of them, and of which you have, I believe, seen specimens of the fruit, which have at different times been exhibited at the Horticultural Shows.

The Downton, or *Knight's Seedling*.—This variety, almost every one knows, was produced from seed, by the venerable Mr. Knight, President of the London Horticultural Society; and first introduced to notice in this country, I believe, by S. G. Perkins, Esq.

The soil upon which my strawberry plat is situated, is constituted of a light mellow loam, resting upon a sandy sub-soil; somewhat sheltered from the north-west. In the latter part of August, suitable preparation having been made, old rotten manure, to the depth of three inches, was turned in to the full depth of the spade; and the beds lined out, so as to leave the rows *twenty* inches asunder, and the plants *fourteen* inches from each other in the rows, placed in the quincuncial order. Before the severe frosts set in, they were covered slightly with leaves, and a little old manure thrown on top to prevent their being blown away. Scarcely a plant suffered through the winter, and the first year, the stools consisting of single plants, the quantity of fruit was small; many of the berries were, however, quite large, and of the coxcomb shape. The next season the stools had become well established; and in April the leaves and manure, with which they had been covered, were pointed in, and the beds dressed. When coming into bloom, and before the fruit had set, the spaces between the rows, and between the stools, were wholly covered with newly mowed grass, cut from the banks and the turf edges round the walks. This was used as a substitute for, and in preference to straw; it is more easily arranged about the stools; and it is readily obtained, as it is required about the period, when you wish to crop the banks the first time. "Grass cut from lawns," is recently recommended in Loudon's Magazine for the same purpose; although it is not many years since, that Sir Joseph Banks advised a return to the old practice of the use of straw, (from which this fruit has derived its name,) as preferable to the many contrivances of trenches between the rows, boards laid lengthwise, and tiles, which had been substituted for the same object.

As it is possible that every person who may be about planting a strawberry bed, may not be aware of the uses of the grass, I will allude to them. In the first place, it protects the plants against drought, by shading their roots from the sun's rays, and also by resisting the escape of the moisture, which would otherwise evaporate into the atmosphere. Of all the large sorts, the *scapes*, or stems, are too feeble to support the fruit, when ripe, in an upright position, consequently all that which grows on the outside of the stools falls into the soil, and is, of course, spoiled; heavy showers, too, beat up the soil over much of the fruit, and make it *gritty*. When the beds are dressed in the spring, it is desirable not to disturb them till the crop is gathered, and the grass serves to keep the weeds down. It is said also to prevent the attack of slugs, as they cannot pass over it.

This was properly the first bearing year, and nothing could look finer than the vines when in fruit; the crop was abundant; many of the berries were of the coxcomb form, and some of them assuming circular and fanciful shapes, with the *calyx* nearly invisible in the centre.

After the fruit season had passed, the grass was removed, and the vines were permitted to extend themselves, and such of the runners as had not been used, were dug in before covering in the autumn, so as to keep the stools entirely distinct.

The next year, the stools having increased in size, the quantity of fruit was greater in proportion; the berries, however, were much more generally conical in shape. The third season, which was the last, the product was fully equal to the previous one.

The flavor of this variety being equal to the smaller sorts, and the flesh finer and more delicate than any of larger ones, it is, on all accounts, entitled to a preference over any of the new varieties which I have cultivated.

It is important, however, with the Downton, in making a bed, that the runners be all taken from fruitful plants, bearing, as it does, its *staminate* and *pistillate* flowers on different roots; there is danger of obtaining some that are called *males*, which are entirely useless, and exhaust the soil to no purpose; and, as they are not weakened by the production of fruit, the runners extend themselves much more rapidly than the others. It is not long since, that, in England, it was thought necessary, in planting, to apportion *one* sterile to about *ten* fruitful plants; but this opinion is exploded, and now all but the fruitful ones are carefully avoided; nor is it necessary to wait for the flower to determine them; the difference is perceptible in the foliage, that of the sterile being much more rank and coarse.

Wilmot's Superb. This variety, which has excited so much admiration in Europe, treated in the same mode as the Downton, (I have, in fact, employed the same method with all the large sorts which I have attempted to cultivate,) was abandoned, after the second year; the product being so small as not to warrant farther trial.

Keen's Seedling. This has succeeded well; it is a good bearer, and of fine flavor; not quite equal to the *Downton* in either point; but its large, dark rich berries are altogether a beautiful fruit, and it well deserves cultivation.

The last season, an individual at East Cambridge produced an abundant crop, and larger fruit than I have ever before seen of this variety; whilst other persons, experienced cultivators too, have given up this, as well as the *Downton*, after a trial, for want of success. In the cases of failure, there seems, to have been one radical error; that is, the plants have been placed upon strong, rich garden soils, and often somewhat moist: whether such soils are too adhesive to permit the fibres sufficiently to extend themselves, or the nutriment which the plant absorbs, be unfit to form the basis of fruit, is a matter of mere theory, which is of no importance, so long as the facts which the results exhibit are before us, and which have been, as far as my own observations have extended to such situations, a profusion of foliage, but little or no fruit.

Methven Castle, or *Methven Scarlet*.—This strawberry, more hardy than any of the large kinds, is very prolific; but the fruit is somewhat spongy in the centre, and it has not the fine flavor of some other sorts; still the magnificent appearance of its enormously large globular berries, renders it a desirable object of cultivation to a certain extent. The question has often been agitated, as to the comparative merits of these new large varieties, with some of the older and smaller ones. With all the *smaller* fruits, size and appearance certainly weigh a great deal in the estimate of their value; and almost every cultivator would be desirous of growing a proportion of the fine large sorts; and, with proper management, they would unquestionably well repay him; still it is not to be denied that they require to be treated with a *good deal more care and attention* than the small ones to expect success. Of the latter kinds, I have made trial of several varieties, among which the

Early Virginia, or *Early Scarlet*, is a valuable one: it is of fine flavor, produces a fair crop, and, as it serves to lengthen out the season of this delicious fruit, it is well worthy of cultivation. It comes into bearing ten days earlier than any other variety.

Wood Strawberry. This old variety has excellent properties: if well cultivated, a greater crop may be obtained from the same space than of any other kind: the period of its ripening is of long duration: it may be cultivated with as little labor, and it will produce well for three successive years, on beds running into mats. With this, as with all other fruits, the red is of higher flavor than the white.

Alpine. This old variety may be managed very similarly to the *Wood:* it has been sometimes recommended to cultivate it by seed, as a preferable mode to using the runners, but it is believed without much reason. I once attempted it with the *White Alpine without runners;* the seed, thought to be very choice, was received from the Horticultural Society of Paris. The plants were brought forward in a frame, and at a proper period they were transplanted; the stools enlarge themselves by offsets, and, like all this variety, it continued bearing till into autumn. Its extremely long and slender fruit had nothing peculiar in its flavor, nor did it seem to be worthy of cultivation, farther than as a matter of variety.

It is desirable, in a private garden, to make a new bed annually, which will enable the cultivator to turn in an old one at the same time, and still keep up a succession; as the strawberry is a great exhauster of the soil, the ground occupied by the old bed should be appropriated to some other crop.

Some distinguished cultivators have re-

commended burning the vines; in the spring they put on a covering of dry straw, an inch in thickness, and set on fire different portions of the same bed at three different periods. It is said to lengthen out the succession of the crop, and that the product is much larger. I have had no experience in this practice. The results of the exertions which have been made in this vicinity within a few years to improve the cultivation of this fruit, are very apparent, as seen in the increased quantities which the market of the metropolis affords, as well as in the introduction from England of those large and splendid varieties, which, till very recently, were unknown, even in that country; and when it is recollected that the English catalogues now contain over *one hundred* distinct varieties, and that they are constantly increasing, and that such are the facilities with which new and valuable fruits are now obtained from abroad, it may reasonably be expected that the number of choice varieties will not only be augmented, but that the period is not distant, when a fruit, which is as universally a favorite as it is simple and harmless in the use, will be produced in quantities more commensurate with the wants of the community.

E. VOSE.

Dorchester, Feb. 15, 1836.

From the American Gardener's Magazine for March.

CULTIVATION AND FORCING OF THE CUCUMBER; TAKEN FROM HORTICULTURAL MEMORANDA, AND EXHIBITING THE STATE OF THEIR PROGRESS FROM JANUARY UNTIL SEPTEMBER. BY THE CONDUCTORS.

JOURNAL.

January 20th, 1832.—The weather, all the month, up to this date, has been very fine, and accompanied with but little severe cold, the thermometer indicating an average temperature, at one o'clock, P. M., of about 4° above freezing (32°). Considerable snow lies upon the ground, which fell in the month of December last. Preparations, however, have been made, to put the pit into operation. The soil which remained in the bed (about four inches in depth) being somewhat frozen, the sashes have been placed on, and the front doors covered with straw or hay: at night, the sashes have been covered with mats and hay, in order that the heat from the sun during the day might be retained. One or two squares of glass which were broken have been repaired, and every thing put in readiness to proceed with the foreing. [We have memoranda taken from the year 1830 to the present time. The reason why we select that of 1832, is, that we were more successful in our mode of cultivation than the two years previous. The quantity of fruit was considerably greater, and the vines much more luxuriant; the forcing was also commenced nearly two months sooner. From the latter cause alone, we have selected the above named year, as the later foreing is commenced, the easier it is carried on,—the inclemency of our winters, the great quantity of snow which often falls, and the severe cold, rendering it extremely difficult and uncertain in the months of January and February; and where the old hot bed system is pursued, the labor and uncertainty is still greater. In the following notes, extracted from our Journal, we have occasionally added some observations. But we think this method will be better understood, than if we made no reference to dates, and merely detailed our mode of cultivation.]

Jan. 21st. The snow, which commenced falling last evening, and continued through the night, covering the ground to the depth of about two and a half inches, has rendered it somewhat inconvenient to add the manure to the pit to-day. Temperature in the open air, at sunrise, 33°.

23d. This morning the mercury fell as low as 5°. The soil in the bed still remains partly frozen; but the sun shining very bright, has thawed the surface. Ten barrows of manure, fresh, and in a good state of fermentation, were added to-day. The doors were closed tight, and hay and straw put against the crevices, and in front of them, by placing up square pieces of board. The sashes were covered at night with one thickness of bass mats; on top of these, soft hay, to the thickness of three or four inches, and on the hay, one more thickness of mats. A few narrow strips of boards were then put on, to prevent the wind from blowing the covering off, should it blow violently during the night.

24th. The weather to-day moderate; temperature, at sunrise, 29°; cloudy, and little misty. Added eight barrows more of manure, and stirred the whole well together. Covered up as on the previous evening.

25th. Rainy; temperature 50°, and to-day the heat in the bed began to rise; temperature 50°, at sunrise. The sashes covered, as mentioned the 24th, every night.

26th. Temperature, at sunrise, zero; snow fell during last night, to the depth of five inches. Temperature of the bed, at sunrise, 50°.

27th. Temperature, 13° below zero. In consequence of the extreme cold, could not open the bed without the fear of losing much heat. Temperature of the bed, 54°.

28th. Thermometer 8° below zero. Cucumber seed planted to-day. The kind best adapted to forcing being considered the *true* Southgate, this kind was planted. The soil in the beds being composed almost wholly of well decayed leaves (but a small portion of common garden earth being added), pots four inches in diameter at the top, and four deep, were filled with it: two or three small pieces of broken pots we first placed over the hole in the bottom of each.

The seeds were then sown, three in each pot, covering them about half an inch deep: the pots were then plunged under the centre light, in the middle of the bed, bringing them up as nigh as possible to the glass, that they might receive all the benefit of the air admitted into the bed. Thus prepared, the sashes were shut tight, and at night covered up warm. This variety (the Southgate) we have found to be the best, having tried it for several years: the seed is rarely to be found of genuine quality; and, from this cause, it has been pronounced inferior, by some growers; but we believe no kind to be earlier, or give a greater quantity of fruit. Temperature of the bed, 65°; of the soil, 75°.

29th, 30th, 31st. Weather more moderate, with rain; the air in the bed has now acquired a greater heat, as also the soil.

February 1st. The heat of the bed to-day is very brisk. The bright sunshine and the moderate temperature of the weather, combined, air is admitted in greater quantity. From the want of this, the plants which appeared above the soil in the pots this morning, are somewhat drawn up, and show the greater necessity of giving air when the seeds are in the first state of vegetation, as well as when the plants are in a more advanced and progressive age. It is a striking instance of the want of air, as well as light, to see the cotyledons, or seed leaves, of plants thickly sown, as soon as they appear above the ground, stretch forward eagerly to cath the first glance of the sun's reviving rays, each one seeming to advance above the other, as if fearing it would be deprived of an equal portion of his refreshing power. Air was admitted about 11 o'clock in the forenoon, by tilting up the sashes at the back of the pit about half an inch. If the air is sharp, a bass mat should be laid over the apertures, to prevent the plants being too suddenly chilled. A pan of soft water was placed in the bed this morning, to become heated to the same temperature, in order to water the plants as soon as needed. The plants looking thus flourishingly, if the weather continues moderate, a good growth may be expected. To give the temperature of the air in the bed, as well as the soil, as taken three times each day, would occupy considerable room; we have therefore concluded, from the want of space, to give the temperature every three or four days (three times each day, viz., morning, noon and night), it varying very little in the intermediate time. We think this a better mode than to give a long table of figures for each month. The dates will, also, only be given when any thing of importance has occurred; as, often, for two or three days, nothing was done but to give air each day; watering the plants, if requiring it, and covering up the sashes at night. The covering up of the sashes is very important, as it tends greatly to keep an even temperature. That which we have found to answer the best purpose, and guard against the cold in the most efficient manner, was a covering of mats and hay, laid on as mentioned previously: this should be continued until April, on no account omitting a single night, however favorable the weather may be at sunset; for we have repeatedly known the thermometer to stand at 32° at that time, and fall as low as zero before daylight.

4th. Temperature of the air in the bed, 64°, 75°, 66°; of the soil, 75°. Air was admitted in greater quantity to-day, the sashes being opened an inch at the back. The plants were slightly watered. Three pots more of cucumber seeds were sown to-day, in order to have a few plants to replace the others, should they meet with any accident by which their growth would be retarded. We have sometimes had those of the first sowing damp off when the weather had continued cloudy for some days, especially when they were first hilled out, it being very difficult to prevent this; while those still growing in pots can be kept dry or moist at pleasure; and answer, as a resource, in any case.

7th. To-day, two barrows of fresh manure were added, the heat having subsided a little. Temperature, 60°. 64°, 60°; of the soil, 70°; this being too low for their successful growth.

10th. The plants of the last sowing, up to-day; look healthier than the first, from their longer time of vegetating. The temperature of the open air being moderate, (above 32°,) and the weather fine, more air was given; the plants acquiring more strength and vigor every day.

14th. Added four barrows of manure to the pit to-day: Temperature, 64°, 65°, 63°; of the soil, 75°. Cucumbers of the first sowing, show their rough leaves.

17th. Heat brisker, and more air admitted. Temperature, 66°, 66°, 64°. The plants being in a vigorous state of growth, a barrow of soil, composed of two thirds leaf mould, and one third light loam, was added to the bed, and placed under the centre of each light, that it might become

heated, and ready for hilling the plants into, in a day or two.

20th. Plants hilled out to-day. The soil was raised up to within eight inches of the glass; a hole sufficiently large to receive the plants was made in each hill, and turning them from the pots, very carefully, so as not to disturb the soil, were placed therein; the earth was drawn up round the stems of each, close to the seed leaves, as from the stems roots proceed; and the plants grow much more stocky and strong, and are less liable to damp off. A light sprinkling of water should be given, and the sashes closed, that a gentle steam may be generated, which will greatly refresh the plants. This operation should be performed in the middle of the afternoon of a fair day.

24th. The sudden change of the weather since yesterday, has caused a decline of the heat in the bed, and four barrows of fresh manure were added to-day; the ends of the roots of the plants having protruded through the soil, and shown themselves on the surface, more earth was drawn up round the hills, and the plants sparingly watered. Temperature, 60°, 60°, 60°; of the soil, 70°.

27th. The second rough leaves of the plants begin to show themselves to-day; the heat of the bed having become very brisk, since the addition of the last manure, the plants are growing rapidly; the weather being more moderate, considerable air was admitted. The pan for containing water should be kept constatly filled, ready for use.

March 1st. During the last month the covering was taken off of the bed, between nine and ten o'clock in the morning, according to the severity of the weather; but oftener at the latter than at the former hour; it was also covered up as soon as the sun's rays left the sashes. During this month, the sun shining with greater power, it should be uncovered as early as nine o'clock in the morning, the former, and at half past eight, the latter part of the month, and should be covered in the afternoon, as early as five o'clock in the former, and at half past five the latter part of the month. A quantity of leaf mould and loam should, on the first opportunity, be collected together, and in readiness to earth round the plants. No kind of soil answers so well for cucumbers, during the first month of their growth, as decayed leaves; indeed, we have seen it alone recommended as the best throughout the growth of the plants, from the sowing of the seed to the maturing of the fruit: we have, however, always found that the plants run too much to vines in such a soil, and, although the fruit was the largest, of the deepest tint of green, and in every way superior, both as regards appearance and quality, still we believe a small portion of light loam added to the above named soil, when the plants have been hilled out a week or two, renders the vines more prolific of fruit, and less luxuriant and rapid in their growth. We have measured leaves on our vines *fifteen inches* in diameter. We once had the pleasure of showing our plants, when in a vigorous state of growth, to an excellent practical gardener, who had grown cucumbers for many years; he appeared astonished at their luxuriance, and hinted that some extraordinary pains had been taken with them; the soil showed for itself, and pure water alone had been made use of; but so certain was our friend that they had received *stronger food*, that, although we most positively averred such was not the fact, we could not convince him to the contrary, and he left us firm in his own suspicions.

The plants were all topped at the first joint, at this time; this is an operation upon which there is a variety of opinions; some stating that it injures the vines, without attaining the end in view; others that they are benefitted in a great degree; some, that it is a matter of little consequence, neither forwarding nor retarding the forcing; and others, that the period of producing fruit is materially shortened. The object of the operation is to keep the plants from running too much to vines,—thus filling the bed without producing fruit,—and to render them at once fruitful, by forcing them to throw out, first, blossoms, and afterwards, runners. We have tried both methods, as well as the experiment of pinching off some plants at the first, some at the second, and some at the third joint: as regards the three latter modes, there is but a slight difference; indeed, at the first or second joint, none; but to let the plants grow without stopping them at all, we have found a very bad practice, and one which we cannot too strongly guard the young practitioner against pursuing. We would here suggest to those, who would wish to satisfy themselves fully upon this subject, the propriety of instituting a series of experiments, which may be thus performed:—Let four hills of plants be taken; pinch off the plants in one hill, at the first joint; in the second, at the second joint; the third, at the third joint; and in the fourth, let the plants take their own course: when they come into blossom, let the time be noted down, as also, when they come into fruit; this will give a correct and satisfactory view of the practice. It is from such observation that we are enabled to state actual results. There has been so much written upon this seemingly trifling subject, and so much doubt still exists, with many gardeners, that we have been thus particular in our remarks. Temperture, 68°, 72°, 68°; of the soil, 78°.

5th. The weather becoming more mild, the bed retains the heat; the plants are daily sprinkled with water warmed to the temperature of the bed, and the sashes shut down early in the afternoon, in order to cause the steam to rise, as this greatly refreshes the plants. There is no better sign that they are in a flourishing state, than when, on opening the sashes in the morning, small drops of water stand on the edges of the leaves; when this is not perceived, the air is not moist enough, and a slight sprinkling of water should be given, upon closing the sashes at night. The plants, till the middle of the month, should be watered about ten o'clock in the morning. Temperature, 68°, 80°, 68°.

7th. A barrow full of soil (leaf mould and loam) was added to-day: the roots again showing themselves on the surface of the hills, as soon as it became well warmed, it was drawn up over them; the plants look strong, and now require considerable water. Temperature, 66°, 68°, 66°.

10th. To-day, three barrows of the old manure were taken out, and three of fresh added in the room. The plants have now attained a good size, and begin to show flower buds. More soil was drawn over the surface of the hills, and the plants watered more freely. Temperatuae, 62°, 78°, 70°; of the soil, 80°.

13th. Weather continues moderate; the heat of the bed very brisk, since the addition of the last manure. More soil was added, to be in readiness to earth round the plants; it is very important that this should, as well as all soil that is added, be put in three or four days before wanted for use; always placing it near the back of the bed, in order that it may be easier warmed, the sun shining with its full force upon it. The moisture is sooner evaporated, than it would be in the front of the bed; and as, early in the season, it often happens, that it cannot be procured only in a very wet state, it is desirable to place it in this situation. Temperature, 66°, 82°, 70°; of the soil, 85°.

17th. Heat still continues rather brisk, and the plants are growing very finely. The roots again showing themselves on the surface of the hills, the soil was drawn over them, which was placed in the bed three or four days since. The object in hilling up the plants from time to time, as well as the addition of soil to the bed at different periods, rather than adding all at once, is to prevent dampness, and a diminution of heat from the quantity of moisture which the soil would contain. The plants now require considerable water, which should be given, from time to time, as soon as the sun's rays leave the sashes. Temperature, 65°, 65°, 63°; of the soil, 70°.

20th. The inclemency of the weather, the last three days, has caused the heat of the bed to abate considerably, and, in consequence, two barrows of old manure were removed, and three of fresh added. We would here mention, that, when fresh manure is added, it should be in a moist state: to put it in, as it is frequently taken away from the stable heap, in a *dry* heat, is a very injudicious practice, and should be carefully avoided. When, however, no other is at hand, the barrows full, as they are taken to the bed, should have two or three pails of water added to each, and the whole, when thrown into the pit, well forked together. We have occasionally opened the doors, and thrown in several pails of water, and after the whole was well forked up, the heat would be brisk for four or five days. This should not be forgotten, as it is a saving of considerable manure, where it is not easily to be had, but is brought from a considerable distance.

23d. Heat very brisk. Temperature, 69°, 86°, 76°; of the soil, 85°. Plants in a vigorous condition, and some flower buds almost expanded. A barrow full of compost of the same kind as before used was added to the bed. Water freely supplied to the plants in fine weather. Some small pegs must now be prepared, to fasten down the vines, as they proceed in growth; this practice is very beneficial to the successful cultivation of the cucumber, as, in the latter part of the forcing, when the vines have filled the bed, the roots, which are thrown out into the soil at every joint, where pegged down, greatly assist in giving additional food and nourishment to the plants as they extend. The old portion of the vines near the root sometimes becomes cankery, and in particular when this is the case, the fibres at the joints afford that support which is cut off from the main roots. These pegs may be made of any small pieces of brush, by taking the part where the branches fork out. Use one at every joint.

27th. The weather has become very moderate; the thermometer, in the open air, indicating 70°. The heat of the bed has been well retained, and less covering at night required. The roots of the vines have again appeared, and the soil was drawn round the hills to the thickness of about three inches, fully covering all the extreme fibres of the roots: it is astonishing with what rapidity they now extend themselves: we have seen them run through a thickness of soil of one inch during the night. One or two staminate (or male) blossoms opened to-day, and several buds, with embryo fruit, are nearly ready to expand. Temperature, 70°, 76°, 70°; of the soil, 82°.

30th. Removed three barrows of manure, and added three of fresh. The pistillate (or female) flowers, those which show the embryo fruit, have opened to-day, and the operation of "setting the fruit," as it is generally termed, was performed. The propriety of this operation having been disputed by many, and as there are various opinions respecting its usefulness, we intend to make some remarks in relation to it; but, as we have extended this communication to a greater length than we expected, or than we have space, at the present time, we leave it until a future opportunity.

(To be continued.)

The following Report of the Committee on Farms, made to the Essex County, Mass., Agricultural Society, will be found both interesting and instructive.

REPORT.—ON FARMS.

The Committee of the Essex Agricultural Society on Farms, consisting of Dean Robinson, William Johnson, Daniel P. King, Amos Kimball, Jeremiah Spofford, Henry A. Breed, and John W. Proctor, *Report*—

That during the two years of their service on that Committee, but one farm has been entered, either for premium or examination. They had anticipated much pleasure as well as individual profit in an opportunity of examining some of the best farms in the county. They very much regret that no inducement has yet been found sufficient to bring forward the enterprising and industrious farmers of the county in this praiseworthy competition. They are of opinion that the great objects of this society could in no way be so effectually promoted as by an examination of a large number of the best farms in different parts of the county, the reports of which by the committee would furnish for our annual publication one of its most valuable sources of information. The statements of the owner or occupants of the farms, setting forth their various modes of cultivation, the variety of their crops, stock, swine, &c. &c., with an accurate and exact account of their modes of managing and cultivating, with their success, would concentrate, in a small compass, a fund of information, valuable to every individual in any way engaged in agricultural pursuits. It is said to be an age of improvements. The committee do not mean to say that every new mode is an improvement, but they do believe that much has been, and much still remains to be done, to improve this most important of all sciences. It is much more difficult to arrive at satisfactory results in agriculture, than in almost any thing else. The great variety of our soil, and the difference of our seasons, make a larger number of experiments necessary, than any individual can make to satisfy himself; from which we infer the vast importance of this source of information, where every individual may have an opportunity of examining for himself, and of adopting such as seems to him likely to be useful. We hope the committee for 1836 will not be under the necessity of repeating the complaint, which has been so many times made by the committees appointed for that purpose.

Daniel Putnam, of Danvers, entered his farm for premium. His farm is not large, and some part of his land is rough and unproductive; but there was, in the opinion of the committee, good evidence, both in doors and out, of enterprise, skill, diligence, neatness, temperance, and economy. His statement is full, and we believe accurate. We shall not comment upon it, as it will be published with the report, and in our opinion deserves a careful examination. The commitee consider him entitled to, and award him the first premim of thirty dollars.

Respectfully submitted by
DEAN ROBINSON, *Chairman.*

DANIEL PUTNAM'S STATEMENT.

To the Committee on Farms, 1835,
of the Essex Agricultural Society:

Gentlemen,—My farm, which is entered for premium, consists of about 80 acres. Not far from 33 acres of it are suitable for tillage; in addition to this, 12 acres are suitable for mowing. Of these last, one is gravelled meadow, one is irrigated land, and 10 are wet or peat meadow. The remainder of the farm can only be pastured; it is so rocky that it cannot be ploughed nor mowed, and has very much run over to bushes. The greater part of my tillage land is a dark loam upon a gravelly subsoil: 8 or 10 acres, with nearly the same subsoil, have nearly a yellow loam; in spots which are numerous and large, enough to make probably 3 acres, the gravel comes quite or very near to the surface. I presume that the greater portion of my tillage land has been improved as such for more than a century and a half; but there are about 10 acres of it which was, until within the last 12 or 15 years, rough, rocky, pasture land, mostly covered with bushes. Since that has been cultivated, I have pastured a portion of the farm which had long been tilled.

Planting. The present year I planted a little more than 5 acres. About one-fifth of an acre was planted with early and sweet corn, early potatoes, beans, peas, turnips, &c., for use in my family during the summer and autumn. The produce of this ground was good in quantity and quality. I have not prepared myself to give you a more particular account of it. While the ground was frozen last winter, I carried stable manure on to a peat meadow, which in the summer is too loose to bear up the cattle. Early in June, about one-sixth of an acre of this meadow was turned up with the hoe; manure (a cord and a half) was put into the hill, and potatoes, with a few pumpkin seeds, were planted. The piece was hoed only once, and early in the autumn I obtained from it 40 bushels of good potatoes, and a cart full (40 bushels) of pumpkins.

I have 5 acres in one enclosure, the whole of which was planted this year. Along the N. E. side of this field is a row of trees, apple and locust; on the N. W. side a row mostly locust. The soil on this last named side of the field is too shallow to produce corn well, therefore I planted a strip, 4 or 5 rods wide, by 20 long, with beans, potatoes, squashes, melons, and corn of a *small* kind; planted potatoes on the remaining three borders of the field also; and the remainder of the field (4 acres and 21 poles) with corn. The soil in this enclosure is mostly the yellow loam. Probably it has been tilled from near the time when my ancestors came to reside here, which was as early as 1641, and possibly earlier. Since 1827 it has been pastured.

Near the end of Nov. 1834, I spread 7 cords of manure upon about two-fifths of the 4 acres and 21 rods which I was intending to plant with corn. The ground was broken up as fast as the manure was spread upon it, thus immediately burying the manure beneath the sod. At the same season I broke up the remainder of the corn ground The manure used here in the autumn (from my barn cellar) was a compound of meadow mud, droppings from the cows, and one load of manure obtained at a lead factory. Near the end of April, 1835, I spread 10 cords of manure, from my barn cellar, upon the furrow of the three-fifths of the ground which received none in the autumn. This was ploughed in with a horse—was ploughed across the furrows, and the sod was not disturbed. The whole piece was harrowed lengthwise the furrows. The field was so furrowed that the rows one way were uniformly 3½ feet apart, and *averaged* the same the other, but at one end of the field they were more, and at the other less than 3½ feet apart one way. There were 15,872 hills. I put into the hill on the whole piece, about 16 cords of manure, which was mostly a mixture from the barn cellar, the hog yard, and the stable. The planting was commenced May 6th, and completed May 12th. Seven kernels of corn were put in each hill. On 75 poles, where the rows were widest apart, I planted the Phinney corn, 1864 hills. On the remainder of the piece (3½ acres and 26 rods) there were 14,408 hills, planted with what we call *brindled* corn. This is mostly eight rowed, has a large kernel, long ear, and large stalk.

On the greater part of this field the corn came up well, and was subsequently but little injured. But on a portion of the field (perhaps half an acre), where I put mostly stable manure that was dry and heating, there was not a good come up, and subsequently the birds, squirrels, and worms did it considerable injury. At the time of hoeing, I planted beans in the missing hills and those which had not more than two blades of corn. Also, in July I sowed turnip seed over a portion of the field, near half an acre. In May I broke up the margins of this field, and put there 6 or 7 cords of manure, much of it coarse—all put in the hill.

Early in June I harrowed between the rows both ways, with a small horse harrow, and hoed; later in the same month, ploughed one furrow in a row each way, harrowed each way, and hoed; in July, (about the middle,) harrowed half the piece one way, and hoed; the other half had a few weeds pulled from it, and that is all that was done. Where the harrow is used so much it is but little work to hoe. The ground was kept almost level—the hill is *very small.*

From the margins of this field I harvested 16 bushels of apples, 140 bushels of potatoes, 15 cwt. squashes, 2 bushels beans, a few melons, and 8 bushels of early corn. From the other part I obtained 40 bushels of turnips, (these mostly from among the Phinney corn,) 4 bushels beans, 54 bushels of ears of Phinney corn, and 655 bushels of ears of the brindled corn. The corn ripened well, and was quite dry when harvested. The Phinney corn was ripe two or three weeks before the other. I gathered it October 16th, and on the 17th shelled out two bushels of the ears, which gave me one bushel and one quart of shelled corn. The yield was at the rate of a little more than 59 bushels and 23 quarts per acre. The brindled corn was gathered the last week in October, and October 31st I shelled out two bushels of the ears of this kind, and obtained more than one bushel and two quarts of shelled corn. The yield (on 3½ acres and 26 rods) was at the rate of a very small fraction more than 95 bushels to the acre. The fodder was, I judge, equal in worth to 6 tons of hay.

In this field I growed 17 different varie-

ties of potatoes: nine of them, making 23 bushels, were from seeds obtained by planting balls in 1833; some of these promise to be worth cultivating.

Part of my corn land, both last year and the present, was prepared by turning manure under the sod, and part by spreading it upon the furrows and then ploughing it in. I have been unable to perceive that either of these methods is more favorable to the growth of corn than the other.

I have half an acre of ground on which, in both 1834 and 1835, I growed corn to be cut up and given to my cows while green. Last spring I spread upon this about three cords of manure, and ploughed it in; furrowed 3 feet apart one way; sowed corn in drills. One third of the piece was sowed early in May, one third late in May, and one third June 10th. Here I cut, daily, from the first of August to the middle of September, a cart full of stalks, in all, I think, not less than 8 tons. As soon as the crop was all removed, I sowed grass seed upon this ground, which soon vegetated.

Sowing. This year I sowed with oats about 3¼ acres. In one piece there was a little more than 1¾ acres. Half of this field was broken up in October, 1833. In April, 1834, this half had 4 cords of manure put upon it, and was then ploughed with a horse across the furrows. The other half had four cords of manure spread upon it, and was immediately broken up, turning the manure under the sod. The whole was harrowed, furrowed 3½ feet apart each way, and it then received nine cords of manure in the hill. It yielded not far from 75 bushels of corn to the acre. In the spring of 1835 I split the hills with a horse; ploughed with a horse lengthwise the original furrows, without disturbing the sod; harrowed; sowed, oats 3½ bushels, clover 6 lbs., herd's grass 1½ peck, red top 3 pecks. per acre; harrowed the seed in and then rolled. The oats were so beaten down with rain that I was obliged to cut them before they were fully ripe; it was difficult, on this account, to thresh them clean—much was necessarily left on the straw. I obtained only 52½ bushels. Probably I should have had about 65 bushels had they ripened well.

Another acre on which I growed oats has received peculiar treatment. Near the end of June, last year, (1834,) I mowed it. It then was bound out, and yielded only 13 or 14 cwt. of hay. Early in July one third of it was turned over with the plough, and on the 4th was harrowed lengthwise the furrows, was furrowed, making drills 4 feet apart. In these drills I put 1½ cords of manure, and sowed corn to be cut for fodder—the crop was good. The remaining two thirds were turned up about the middle of July, prepared like the first, dressed with two cords of manure in the drills, and sowed soon after with turnips—the crop was about 150 bushels. In the spring of 1835 I spread on the acre one cord of stable manure mixed with 1 1-3 cord of meadow mud and a cask of lime; also two thirds of a cord of peat ashes; sowed, oats 3½ bushels, clover 8 lbs., herd's grass 1½ peck, red top 3 pecks; ploughed across the furrows without moving the sod; harrowed and then rolled. This yielded more than two tons of oats, which were cut when unripe, for fodder. The stubble looks well, quite as well as the other. This experiment has thus far exceeded my expectations.

Nearly an half acre more was well manured last year, and planted with corn. Last spring I sowed this with oats and cut them while green—near a ton. This ground was ploughed up early in August; harrowed; furrowed one way three feet apart; between two and three cords of manure put in the drills; sowed with turnips and rolled. The manure was mostly meadow mud, that had been put into the barn cellar early in June, and from which the droppings from the cows at night had fallen. I once harrowed between the rows of turnips, and thinned them. The piece (73 poles) yielded 218 bushels of very fine turnips, which were harvested the first week in November.

Mowing. This season I mowed about 17 acres of tillage land, which yielded 22 tons of good hay; one acre of gravelled meadow, yielding 1½ ton; and near an acre of irrigated land, giving 1½ ton—the produce of these two acres is hardly merchantable, but is very good feed for stock—also, about ten acres of wet meadow, which gave only about 6 tons. Of second crop I had two tons.

One acre of tillage land, which produced clover this year, was ploughed up early in the autumn of 1832, and immediately sowed with turnips. In the spring of 1833 it was cross ploughed, and dressed with 6 or 7 cords of manure, half of which was ploughed in, and half put in the hill. It was planted with corn and yielded about 60 bushels. In the fall of 1833, after the corn was harvested, I spread upon the acre between 3 and 4 cords of manure, from the barn cellar, and ploughed it in. In the spring of 1834 I put three cords of manure in the hill, and again planted with corn, and a few potatoes; the crop was about 55 bushels of corn and 20 of potatoes. This piece was cultivated without making *any* hill—it was not ploughed between the rows, but harrowed. July 11th, the last time of harrowing, I sowed upon the acre, (then covered with corn,) clover 6 lbs., herd's grass 1 peck, red top 2 pecks. In the spring of 1835, this round was rolled; and in July I cut upon it two tons of clover. This hay, just before being put into the barn, was rolled up into 42 heaps, apparently of equal size. Two of these, without the scatterings, were weighed, and the weight of each was 95 lbs.

One half acre of my mowing ground produced turnips in the autumn of 1833, and in 1834 was well manured and planted with potatoes. The crop was good for that year—165 bushels. As soon as the potatoes had been harvested, October 17, I ploughed, harrowed, sowed clover 3 lbs., herd's grass 6 qts., and red top 6 qts. The autumn was cold, and the hay seed did not vegetate until the spring. In the early part of the season weeds and grass came up together; so large a portion of the growth was weeds that I mowed before the grass was well grown; the produce then of weeds and grass was about half a ton; the second crop was good in quality, and amounted to 15 cwt. Adjoining this piece there is about one third of an acre which is too wet for tillage, and which, in August, 1833, was ploughed, levelled, harrowed two or three times, dressed with near two cords of compost manure, sowed with hay seed, harrowed again and rolled. In 1834 this produced about 15 cwt. of good hay, and in 1835, 18 cwt.

One piece of stubble was, in the spring of 1834, sowed partly with wheat and partly with oats. In some spots the oats were large, and lodged so as to render it necessary to cut them while green. The stubble where the oats ripened was inferior, by very many per cent., to that where they were cut unripe. Where the wheat was sowed, the stubble was very good, better even than where the oats were cut when green. The produce of the piece was about 3½ tons of clover.

Another piece of a little more than two acres, produced oats last year, which were cut for fodder while unripe; this also gave about 3½ tons of clover. The remainder of the mowing land produced hay the last season. I spread annually upon my grass lands 8 or 10 cords of compost manure; this is done mostly in November.

Manure—Means. Under the eastern corner of my barn I have made a cellar, which is near 40 feet long, 14 wide, and 7 deep; five feet of the width is made a part of the cellar by a roof built out from the side of the barn a little above the sills. I conveniently get the droppings from my cows, oxen, and horses, into the middle of the cellar; but were the *whole* of the cellar *under* the barn, these would fall at one side. The cellar has a plank floor, laid in clay, and little if any urine escapes from it. The front of the cellar is closed by three doors, each sufficiently wide to admit the cart. The eastern corner of the barn-yard is a basin of 3 or 4 rods area, the central part of which is a foot or two lower than the circumference. My hog yard is about 28 feet long and 20 wide. This is sunk 3 or 4 feet below the surface of the surrounding ground, except on the side next the hog house; there it so slopes that the swine can easily pass in and out. The whole is paved with small stones, and no water escapes from it. At the ends the bank is so sloped as to permit the passing in of the cart, but at the side opposite the hog house the bank is perpendicular. From this it is very convenient putting in materials for making manure. The yard is divided into three pens, each of which connects with a pen in the hog house. Within 60 or 80 rods from my barn I have an abundance of meadow mud.

Manner of making Manure. At night my cows are in the barn, over the cellar, during the whole year, excepting about one month, while I am getting my hay. Three swine usually are kept in the cellar. Early in June, when the cellar is empty, I put into it three small loads of meadow mud; the droppings from the cows at night are daily thrown down upon this, and the pigs are at work among it; in a few days I again put in meadow mud; and after ten or twelve days again put in a small load at each door. About the first of August I take all the manure from the cellar and put it upon ground which I then sow with turnips; the quantity usually about two cords. Then I put in meadow mud as before, and continue to do this from time to time until near November. The contents of the cellar are, between the middle and last of November, all carried out upon the ground which I intend to plant the following spring, and ploughed in—quantity from 7 to 8 cords. During the winter I throw the buts of corn stalks into the barn yard. The cows are in the yard several hours a day, and they are there at night during July. Soon after haying, the contents of the yard are all collected in the basin at the eastern corner, and are there mixed with stable manure and meadow mud; the compost heap thus formed, usually contains 8 or 10 cords, which, in November, I spread upon my grass lands. From my hog yard the manure is removed only in the spring. After this has been done, I put in two or three small loads of meadow mud; this I repeat every few days; also I put in a considerable quantity of stable manure; meadow hay, weeds, &c., are often thrown in. I obtain from this yard annually about 8 cords. Usually I throw up on to the bank of the ditch, in August, a sufficient quantity of meadow mud to supply me

for the year. Annually, for the last three or four years, I have purchased, three miles from my farm, about 15 cords of stable manure, some of which is used in the state in which I obtain it, but the greater part is first put into the barn yard and hog yard, where it is mixed with meadow mud, &c. The last two or three years I have made annually (including the 15 purchased) not far from 50 cords.

Stock. I feed a horse and cow owned by my sons. In addition to this, my stock is usually 7 cows, one yoke of oxen, a horse, and another yoke of oxen half the year, or more. A portion of my hay is carried to market.

Commonly I supply myself with stock from droves which are brought from a distance, and am unable to give any account of the breed of my animals.

I usually winter three swine, and keep, in addition to these, five or six pigs through the summer and autumn.

Mode of Feeding.—From the latter part of May to the early part of August, my cows and oxen have nothing to feed upon but what the pasture yields. When the feed there grows short, I give them daily, at the barn, green corn-stalks. About the middle of September they are turned into the fields, and need no feeding at the barn for several weeks. When the fall feed has become short, I give them turnips, generally with the tops on. By the use of these, and a few corn-stalks, they are kept along until the latter part of November. During the three winter months, they are fed mostly upon meadow hay, straw, turnips, and corn-stalks. The meadow hay is salted when put into the barn, and before being given to the stock, both that and the straw are chopped with the straw-cutter. In the spring they are fed upon good upland hay, which is not cut. For a few weeks, about the time of calving, I give each cow one or two quarts of cob-meal per day. In the warm season the horses run in the pastures and fields, and in the winter are fed upon cut hay and cob-meal. In former years I gave my swine the wash from the kitchen and dairy, meal, and, in the autumn, unripe corn upon the cob. This season I have boiled apples and cob-meal together, and the swine thrive and fatten well upon this mixture. Since the first of September I have used in this way about one bushel of small apples daily. For my store pigs, I thicken the wash from the *kitchen* with boiled apples and a very small quantity of cob-meal. Those which I am fattening have the wash from the *dairy*, thickened with apples and more meal; they eat also some small unripe corn. I think I do not use more than one half the meal this season that I have used in former years to obtain the same quantity of pork.

Quantity of Labor, from Dec. 1, 1834, to Dec. 1, 1835.—Myself the whole year; one son, 14 years old, has lived at home the whole year, but attended school 4 months; another son, 10 years old, with me the whole year, but attended school 5 months; an older son, whom I hire, 8 months. Paid for labor done by others, 30 dollars. Received for labor done by myself and the three sons above named, in the shoe manufactory of two other sons, 56 dollars and 66 cents.—Received for labor done with the team off the farm, 29 dollars and 25 cents.

Excepting one man 23 days, all the labor on the farm has been performed by myself and sons, and all in the house by my wife and daughters. There has been no use on the farm of ardent spirit, wine, cider, beer, or tobacco. My family for the year has averaged from 9 to 10 persons. Milk is a common drink with us, in the field and at the table. Probably we consume more than a gallon per day, through the year.

Orchard.—Near forty years ago planted a nursery, from which subsequently I transplanted many trees upon my rocky, bushy pasture land. That orchard did well for a few years, but the trees there are nearly all dead. At this time I have, including all ages, from very old to quite young, about 240 *bearing* engrafted apple trees, and 25 natural. Of the engrafted, I have about 20 different varieties—more of the russet pearmain than of any other kind. I have about 80 engrafted apple trees, which are yet too young to bear. I transplant my trees in the spring. Of the pear I have 12 trees and 7 varieties. Have peach, cherry, plumb, and quince trees, mostly young, making, in all, between 40 and 50. Have also 5 or 6 grape vines, which have recently commenced bearing. Nearly all my fruit trees now are upon my tillage land, and upon portions which this year yielded grass.

Products of the Farm, 1835.

English Hay	25 tons.
Wet Meadow	6 "
Oats cut for fodder	3 "
Oat Straw	2 "
Second crop	2 "
Dry corn fodder, equal in worth to	6 " of hay.
Corn fodder used green	8 "
Turnips	265 bushels.
Potatoes	185 "
Oats	52½ "
Indian Corn	725 bushels of ears.
Beans, white,	6 bushels.
Winter Apples, engrafted,	200 barrels.
Winter " " (inferior)	100 bushels.
Summer " " (good)	100 "
Apples, natural,	140 "
Summer Pears	10 "
Autumn and Winter do.	7 "
Quinces	1 "
Peaches	5 "
Grapes, Isabella,	2 "
Winter Squashes	1600 lbs.
Pumpkins	1 cart full.
Seven Calves, fatted,	945 lbs.
Young Pigs, sold alive,	50 "
Milk, sold,	170 gallons.
Butter	824 lbs.
Pork (probably)	1550 "
Beef, fatted,	2500 "
Milk, used in my family,	365 gallons.
Vegetables do.	

DANIEL PUTNAM.

We shall continue our selections from this valuable report in our next number.

FRUITS AND FLOWERS.—We cannot give, in this number, the entire report on Fruits and Flowers, yet the following extract is so much in accordance with our own feelings, that we omit other matter in type to give it a place.

On the subject of *Flowers*, the exhibition of which contributed much to the interest of the Show, a few words will express all we feell required to say. It is not desirable that flowers should either be extensively cultivated by our farmers, or entirely neglected. They constitute a beautiful part of the Creator's works, and are capable of exerting a most benign influence on the hearts and minds of men. They furnish food, which the intellect feeds on and enjoys. Carefully nursed and neatly arranged about a farm-house, they command the notice and admiration of travellers or visitors to a greater degree than far more costly architectural ornaments. Day unto day they utter the praises of Him—

Whose Sun exalts,
Whose breath perfumes them, and whose pencil paints,

and proclaim the elevation of sentiment and the refinement of the taste of their cultivators; so intimately associated with the love of truth and virtue is a taste for the beauties of nature, that where the latter is discovered the former is believed to exist also. Hence rose bushes, peonies or honeysuckles, lilac bushes, a bed of pinks, daffodils, lillies, or dahlias tastefully grouped about a farmer's domicil, prove to him a letter of recommendation and credit to every intelligent passer by, which, to him and his, may prove productive of important consequences. The Committee, therefore, did not hesitate to award a few small gratuities for flowers. In determining to whom among the generous contributors to the Show of Fruits and Flowers these rewards should be given, they were governed on this occasion by this principle—viz: To give the gratuities to those who contributed most largely to the interests of the show, or furnished information of the greatest value to the Society.

The gratuities awarded were as follows:

To Robert Manning, Salem,	$2
Francis Putnam, Salem,	2
Abel Nichols, Danvers,	2
John Gardner, Danvers,	2
Stephen Driver, Salem,	1
Kendal Osborn, Danvers,	1
Edward Lander, Danvers,	1
James Foster, Beverly,	1
John M. Ives, Salem,	1

ANDREW NICHOLS,
Per order of the Committee.

From the Silkworm, No. 9.

ESTIMATE OF THE EXPENSES AND PROCEEDS OF A SILK GROWING ESTABLISHMENT, FOR SEVEN YEARS, COMMEMCING WITH ONLY TWO HUNDRED YOUNG TREES OR CUTTINGS OF THE CHINESE MULBERRY;—CHIEFLY INTENDED TO SHOW THAT IT MAY BE SUCCESSFULLY COMMENCED AND PURSUED WITHOUT CAPITAL.

If there is a person in the world whose mind has not been warped and biased by the influence of hereditary prejudices and fashionable opinions; should that person be asked what human being is entitled to the highest veneration and esteem of his fellow beings, he would answer, the person who should devise the means to produce the greater quantity of the most palatable and nutritious food for his fellow creatures, at the least expense. Should he be farther asked, who is entitled to the next rank in public esteem? his answer would be, he, whose talents produces the same effect with respect to clothing. In other words, the most exalted rank belongs to the best agriculturist: and the next to him, whose inventive genius has effected the greatest improvement in the quantity and quality of clothingat the least or a given price.

How enviable, then, must be the situation of that person, in whom is united both these titles, and whose employment is, at the same time, as lucrative, as healthful, and as pleasing as it is useful to mankind.

Such an employment, with such advan-

tages, and if well conducted, certainly and clearly entitled to such honor and respect, is now fairly presented to the people of the United States in the business of cultivating silk; and experiments have fairly shown that there is no deception in the offer, but that it may be entered into without any hazard or chance of failure. It embraces all the charms of rural husbandry, with as little of the hard labor, as is consistent with bodily health and vigor. Its agricultural depr-tment is calculated to furnish healthful and pleasant labor, and consequently, food to the indigent without servile degradation, and it furnishes the richest and most elegant clothing that man or woman ever put on; and when fairly introduced, under the advantages which this country offers, its price will never be beyond the reach of honest industry. And besides all this, the profits it will yield will be equal to, or greater than those of any other branch of agriculture or manufacture. Who, then, would not be a silk grower,—especially when the means of engaging in it are within the reach of every one possessed of common mental and corporeal faculties, who has credit sufficient to hire an acre of ground, and that even of almost the poorest quality?

The ultimate success and perfect adaptation of the Chinese mulberry to every part of this country, are now established by reports of experiments which cannot be doubted, from every quarter. It is now ascertained beyond the need of farther investigation, that it is as hardy to endure the winter's frost as the white mulberry, or almost any other fruit tree. It is ascertained that the best ground to appropriate to it, is such sandy or gravelly and hilly ground as is of little value for most other uses,—that if seed cannot be obtained, it may be propagated equally well from cuttings, or pieces of twigs, or young branches, a few inches long, with one end stuck into the ground.

There is no industrious man in the United States, with a family and in health, who cannot hire, if he cannot buy, an acre of ground for a nursery; and having bought it, he can, by exchanging work with some farmer, cause it, or a part of it, to be ploughed. If he is unable to buy young Chinese mulberry trees, and cannot procure the seed, which may, for a short time to come, be rather difficult, he can easily, by a little energetic perseverance, procure two hundred cuttings, probably without paying any thing, or at most but very little. Let him commence with these, and at the lowest calculation, which is perhaps more than three quarters below the truth, they will produce him a thousand the second year, and may be multiplied, from year to year, not only in the same, but in an increased ratio, as those first set out increase in size.

I will endeavor to show what may be effected by perseverance in a systematic plan, which is the only mode of proceeding with any certainty of success. I shall limit the calculation to seven years, which will be a fair beginning; after which, any one with the experience of that time, will be able to make calculations for the future. I shall set down each item in the calculation fa below, and in some instances, three hundred per cent. below what fair experiments have shown may be relied on.

As it is important, at the commencement, to multiply the trees as fast as possible, I would advise to begin with about an acre of mellow, rich, sandy loam, which, though not so good for the ultimate production of silk, is more conducive to the rapid growth of the young trees before transplanting, and is therefore best for the nursery. In this nursery, I would set the seedlings, cuttings, or other young trees, as near together as they can have room to grow, the first year.

The first year, 200 cuttings, set in the spring, will afford leaves sufficient to feed about 500 worms. This number would be of no profitable use in yielding silk; but it will be well to keep them, in order to form some acquaintance with them, and to provide eggs for the next year.

The moths produced by the 500 worms, will probably be half females, and will produce about 100,000 eggs; about 15,000 of which will be wanted for the next season. Suppose 50,000 of them should be sold at 12½ cents, which is one half their present price, the account for this year may stand thus:

Rent for acre, for nursery,	$5
200 cuttings, say,	2
Trouble of collecting, setting, &c.,	2
Feeding 500 worms,	2
	$11
50,000 eggs sold, at 12½ cts. per 1000,	6
Nett expense out, first year,	$4 75

SECOND YEAR.

This year, also, but little or no profit can be expected. Allowing only five cuttings or layers from each tree, which is probably not more than one fourth of what may be produced, there will be 200 trees of last year, and one thousand propagated this year. These will afford leaves sufficient for 15,000 worms, which, besides producing eggs for next year, would yield, perhaps, a little over six pounds of silk, which, at $5 per pound, will bring $30.

The expenses and procceeds of this year may be estimated thus:

Rent of nursery,	$5
Propagating by cuttings or layers, 1000 trees,	6
Feeding 15,000 worms,	10
Reeling 6 lbs. silk,	4 50
	$25 50
Six pounds silk, at $5 per pound,	30 00
Nett gain second year,	$4 50

THIRD YEAR.

This year, also, will afford but small profit. All the increase of the trees may still be retained in the nursery. From each of those set the spring before, ten at least may be taken.

For the spring of the third year, there will be 200 trees two years old, and 1000 of one year old. From eachof the first, may be propagated ten, and fivefrom each of the othe rs, making of thisyear's propagation, 7000; in the whole, 8200. If from each of the first trees, two pounds of leaves are taken, and one pound from each of the next, and 1000 pounds from the 7000 young plants, making in all 1900 pounds of leaves, these together will feed 50,000 worms, which will make twenty pounds of silk.

Statement for the third year,

Rent,	$5
Setting 7000 trees,	21
Feeding and care of 50,000 worms,	25
Reeling 20 pounds silk,	15
	$66
20 pounds silk, at $5 per pound,	$100
Nett gain third year,	$34

FOURTH YEAR.

Proceeding in the same ratio for four years yet to come, allowing each tree set the year before, by cuttings or layers, to produce five, and each over that age, ten, which is infinitely short of what can be effected, then the number of trees for the fourth year will be 55,200, the fifth year, 372,200, the sixth year, 2,500,200, and the seventh year, 15,872,200.

But as these last numbers outstrip all practical calculations within the bounds of reason, we will therefore go back to the beginning of the fourth year, which commences with 8,200 trees.

As this number will extend beyond the convenient limits of the nursery, of course it will be necessary to begin transplanting the trees to the place of their final destination. To effect this, I would advise to hire a piece of ground on a permanent lease, say twenty acres, and more if can be done conveniently, with the privilege of purchasing in three years.

I would prepare a part of this field, and transplant the 1,200 trees of one and two years old. These I would set in rows eight feet and six inches apart, and the trees in the row, a little short of twenty inches, or ten trees in a rod, by which arrangement an acre will contain 3,200 trees. The whole field ought to be well fenced, or at any rate, the trees protected from every kind of depredation. The trees three years old may be calculated to yield three pounds of leaves each; those of two years one and a half pounds, and those of one year half a pound; in all, 4,600 pounds without those set this year. These will feed 120,000 worms, which will yield fifty pounds of silk, which, at $5 per pound, will amount to $250.

The expenses and avails this year may be set down thus:

Rent of nursery,	$5
Rent of field, 20 acres, at $2 per acre,	40
Transplanting 1,200 trees, preparing ground, &c.,	12
Attendance of worms, and reeling 50 pounds silk,	100
	$157
50 pounds of silk, at $5 per pound,	250
Nett gain fourth year,	$90

FIFTH YEAR.

The fifth year there will be 7000 trees two years old, and of course, ready for trans-

planting, which, with the 1,200 already transplanted, making 8,200, will occupy a little more than two and a half acres. These, with those one year old, will produce leaves enough to feed something over a million of worms, from which may be calculated on 416 pounds of silk.

Rent of nursery and field,	$42 50
Transplanting 7,000 trees,	35
Feeding and care of 1,000,000 worms,	250
Reeling 416 pounds silk,	312
	$639 50
416 pounds silk, at $5 per pound,	2080
Nett proceeds fifth year,	$1441 50

SIXTH YEAR.

It will be perceived that, as at the ratio at which we proceeded thus far in propagating, there will be this year untransplanted 47,000 trees of one year's growth, and 317,000 set this year; in all, 364,000. These could not have room to stand in the original acre of nursery; I shall therefore suppose that the cultivator has, this year, either enriched and prepared a part of the twenty acres, in order to enlarge the nursery, or has procured a sufficient quantity of suitable ground elsewhere, in which case the yet unoccupied portion of the twenty acres may be considered an equivalent, and the rent, therefore, need not come into the account.

The sixth year will commence by transplanting the 47,000 trees two years old this spring, which, with those transplanted before, will make 55,200, leaving space in the twenty acres for 8,800 more. There will then be for this year's feeding 200 trees of five years, 1,000 four years, 7,000 of three years, and 47,000 of two years old. These will produce at least 60,000 pounds of leaves, which, with what may be gathered from 223,000 of one year old, will amount to 100,000 pounds, which will feed, at a reduced calculation, 2,500,000 worms, which number will make 1041 pounds of silk, worth $5265.

Estimate for this year.

Rent,	$42 50
Transplanting 47,000 trees,	235
Feeding and care of 2,500,000 worms,	300
Reeling 1041 pounds silk,	520 50
Interest of cocoonery supposed to have been built last year,	210
	$1308
1041 pounds silk, at $5 per pound,	5205
Nett gain sixth year,	$3897

SEVENTH YEAR.

At the season of commencing this spring, the silk made the year before will have been sold, and after paying all expenses of the season, will have left a nett gain of above $3000; and as there will be 317,000 trees of two years old, if one half of them are sold at two cents each, (the purchaser being at the expense of removing them,) which would now readily command six or eight times that price, they will amount to $3,170. By these means, there will be sufficient funds on hand to pay for the twenty acres of land, which, at $30 per acre, will amount to $600, and $3000 for a cocoonery, which I shall suppose to have been built on credit the year before, together with $210 interest; still leaving a balance of perhaps over $2000. I shall also suppose that in the course of the fifth season the cultivator has made a purchase of two hundred acres of land, which, if the business has been well conducted thus far, can easily be done on a credit, to pay by instalments of $1000 each, beginning after two years, and which, at $30 per acre, will require six instalments. If this is done, he will now be able, from the remaining avails of last season, to pay the first instalment with the interest due.

Table exhibiting, at one view, according to the foregoing statement, the number of trees set, the total number of trees, quantity of leaves, number of worms fed, number of pounds of silk, and amount each year, for seven successive years.

Years.	Trees set.	Total No. trees.	Pounds of leaves.	Number of worms fed.	Pounds of silk.	Amount.
1st	200	200				
2d	1000	1200	340	15,000	6	30
3d	7000	8200	1900	50,000	20	100
4th	47,000	552,000	4600	12,000	50	250
5th	317,000	372,200	36,000	1,000,000	416	2080
6th	552,000	765,700	100,000	2,500,000	1041	5202
7th		755,700	595,000	16,536,000	6886	34,430

I have in this table not only estimated every item at the lowest rate, but omitted all fractions.

There is nothing visionary in this calculation. There is not an item in it which has not been far outdone in practice, and nothing in it but what any practised grower of silk knows can be realised. But as the two or three first years produce but little profit, many adventurers in the business who cannot look at the future through the medium of arithmetic will be apt to feel discouraged and abandon it. There are also many poor but industrious people who might commence the business, and not only acquire competence, but wealth in a few years, but who are deterred from the undertaking by supposing that some considerable capital is necessary. It has been my principal object, in giving this statement, to show that no more capital is necessary than can be obtained by any person of common honesty and industry. Should the hints and outlines I have given prove the means of redeeming one deserving family from the cold embraces of cheerless poverty, I shall feel amply rewarded.

MISCELLANEOUS ARTICLES.

I have no doubt that the ingenious method, invented by Mr. Gay, of winding the silk from the cocoons on bobbins, instead of reeling, will become the most general practice throughout this country, but still reeling will not be wholly dispensed with. I shall therefore give some further instructions, respecting the operations of reeling, the first of which I copy from the report on the subject, made to Congress by Mr. Rush, when Secretary of the Treasury of the U. S.

Of disbanding the Silk from the Reel, and tying it in Skeins.

One cannot consider attenively the manner in which silk is reeled from the cocoons, without observing that the single fibres of which the thread is composed are liable to suffer very different degrees of stretching as they are wound from the cocoon. If the cocoons are not well assorted, this different degree of extension will be greater; and even if they are assorted, they must still be subject to the same, because some are a little longer in the water than others, and therefore give their silk easier; and also the weak latter ends of some cocoons wind off with the strong first parts of others.

The fibres being thus stretched unequally, will occasion (when the skein is taken from the reel too suddenly) those fibres which are most stretched to contract more than the others, by which their union will be in some measure destroyed, and the thread composed of them rendered less compact and firm, the fibres appearing in several places disjoined from one another. To remedy this, the skein should remain there six or eight hours, until the unequal tension which it suffered in winding is, by the stretch it undergoes on the reel, brought nearer to an equality, and until the thread, by being well dried, has its fibres firmly united.

When the skein is finished, there should be a mark tied to the end of the thread, otherwise it may be difficult to find it, if it mixes with the threads of the skein.

When the skein is quite dry, proceed to disband it from the reel. First squeeze it together all round, to loosen it upon the bars; then with a thread made of refuse silk, tie it on those places where it bore on the bars of the reel; then slide it off the reel, after which double it, and tie it near each extremity, and then lay it by for use, in a clean dry place.

On the qualities and preparations of Raw Silk, chiefly compiled from the Essays of Mr. D'HOMERGUE.

Silk direct from the reel is called raw silk, on account of its being in an unmanufactured state.

There are three qualities of raw silk, graduated according to their different degrees of fineness. While in that shape and until they have undergone the operations that are to fit them for the loom, they are called first, second, and third, beginning with the finest. They assume other names as soon as they have been prepared and made fit to be used by the manufacturer. Then they have ceased to be called *singles*, *organzine*, and *tram* silk, according to their different degrees of firmness and the

manner in which they have been passed through a certain machine called a mill.

Singles, or as it is termed in French, *le poil*, that is to say, *hair silk*, are made of the first quality of raw silk, consequently the finest, as the name sufficiently implies. They are made of a single thread or *fibre*.

Organzine is the next in firmness; it is employed in weaving to make the warp of those stuffs that are made entirely of silk.

Tram silk is the coarsest of the three, and is used for the woof (filling) of silk stuffs.

Of the three qualities of raw silk, of which those different threads are made, the second, that which makes *organzine*, is the most in demand. The silk I have extracted (says Mr. D'Homergue,) from American cocoons, is of that quality. In performing those operations, I have, for the first time, discovered the superior fineness of the American silk, by finding, to my great astonishment, that it required a much greater quantity of threads to produce the different qualities of raw silk above mentioned, than the cocoons of Europe. Singles, or hair silk, made of the same number of threads, or fibres, as in Italy or France, would be almost impalpable and entirely unfit for use. This supremacy will give to the American raw silk a great advantage over all others.

Raw silk, (continues the same writer,) is an article of commerce of great value to the countries that produce it. Great Britain imports it for the use of her manufacturers from Bengal, China, Turkey, and Italy, to the amount of one million eight hundred thousand pounds sterling, or $7,772,000, annually, and France imports it to the amount of 100,000,000 francs, or $18,750,000, and makes it herself to the amount of between three and four millions of dollars more.

Mr. Comstock, in his practical treatise on the culture of silk, (a work which I would earnestly recommend to the perusal of every adventurer in the silk business,) concludes his article on raw silk thus:

There are, then, six different kinds of silk extracted from the cocoons by processes of various kinds, or which differ more or less from each other in the manner of using them; and all of which require not only skill and dexterity, but knowledge acquired by long practice. I shall recapitulate them in their order, according to their degrees of fineness.

1. Silk of the finest quality, or singles.
2. Silk of the second quality, or organzine.
3. Silk of the third quality, or tram silk.
4. Sewing silk of the first and second quality.
5. Cordonnet, or twist of ditto.
6. Feloselle, or floss silk.

The following articles, on the preparation of silk from the before mentioned "Treatise," by Mr. Comstock, are adapted to proceedings upon a large scale; but they may be easily reduced to such small proportions as may be required in domestic operations.

CLEANSING SILK.

Though cleansing silk comes more appropriately within the province of the manufacturer than the culturist, yet, as the manufacture of sewing silk and twist may be profitably connected with the growing, we subjoin the method by which it is cleansed and prepared for dyeing.

Silk, as left by the worm, contains certain impurities which must be separated from it, especially when it is intended for particular kinds of fabrics. Yellow silk contains gum, coloring matter, wax, and an oil similar to the essential oils of many vegetables.—White silk also contains gum, wax, and an oil slightly tinged with coloring matter, resembling the liquid in the chrysalis of the worm. By chemical experiments it has been ascertained that the amount of gum is from 23 to 24 per cent. It is dry, friable, and, when pulverized, of a yellowish red color—soluble in water. The coloring matter is resinous, but exists in a very small proportion—supposed to be from 1-58th to 1-60th per cent. The wax is hard, but brittle, and slightly colored. Its proportion is about one half per cent.—These substances affect the whiteness and flexibility of silk, and the process by which they are extracted is called "cleansing silk." It is also varied according to the nature and kind of the article for which it is designed.

These processes are called "ungumming," "sulphuring," and "aluming." Silk also intended to remain white, is boiled and gummed, while that intended for dyeing is boiled, but left ungummed, on the supposition that the gum has some affininity for the coloring matter with which it is to be incorporated.

UNGUMMING SILK.

The silk, intended for white, is made up into hanks by running a thread around each hank, containing a number of skeins tied together. The hanks are then untied, and several of them bound together in a bundle of convenient size. This is done that the silk may be handled without becoming entangled. The silk is then prepared for ungumming, which is done by putting it in strong soap suds. For every hundred pounds of silk take thirty pounds of soap and dissolve it in water. Cutting it into small slices will facilitate its solution. Some dyers consider fifteen pounds of soap sufficient, and think more injures the lustre of the silk.

After the soap is dissolved, the kettle is filled up with fresh water, and placed over a moderate fire until it rises to the highest possible degree short of boiling heat—for should it boil it would injure the silk by making it flossy. When the bath, or suds, is ready, the hanks of silk are immersed in it, or such parts of them as the capacity of the kettle will admit, and suffered to remain until it is freed from the gum, which is determined by the whiteness and flexibility of the silk. This operation is repeated until all parts of the hank have been immersed. After the hanks have been ungummed, the soap and water is wrung out of them, and they are next to undergo a process which is called bagging.

BAGGING SILK.

To bag silk, bags of strong coarse linen are prepared. They are about fifteen inches wide, and four or five feet long, and closed at the ends, with one side left open. These bags are filled with hanks of silk, laid in lengthwise, and sewed up with strong thread. These bags are put into a bath, or suds, prepared in the same manner, and with the same proportions as the former, and boiled for fifteen or twenty minutes. When the suds begins to boil over it must be checked by throwing in a little cold water. While it is boiling it must be stirred often to bring up to the surface such bags as are at the bottom of the kettle, or it will be liable to be burned. It will also produce more uniformity in boiling. This operation, it will be remembered, is to be performed when the silk is to be left white.

Silk intended for dyeing is boiled in the same manner, with this difference: the silk is continued boiling three or four hours, and the kettle occasionally filled up with water. For common colors, twenty, instead of thirty pounds of soap are used in making the suds; but if intended to be dyed blue, iron grey, or other colors, thirty pounds is used.

After the silk is supposed to be thoroughly boiled, the bags are carefully taken out of the kettle, opened, and the silk examined. If any part remains unboiled, it must be put in and boiled again. This is ascertained by the yellow, and a certain kind of slime on such parts as have not been boiled.

A more simple method of ungumming silk, has long been practised in Connecticut, and it will doubtless answer every purpose, provided measures are taken to prevent its becoming entangled. This method is to merely boil the silk in water saturated with a small quantity of soft soap, or the ley of common wood ashes.

SULPHURING SILK.

When it is desirable to give silk a peculiar firmness, it is fumigated with brimstone. This process is called sulphuring, and is thus performed:—A high studded room or garret, without a fire place, but with doors and windows which may be thrown open at pleasure for ventilation, is chosen for the operation. The skeins of silk are hung on poles suspended from above by cords, at the height of seven or eight feet from the floor. For every hundred pounds of silk, a pound and half, or two pounds of roll brimstone is procured, placed in a chafing dish, and set on fire. The doors and windows are then closed, as are also all crevices through which the fumes of the brimstone might escape. In this situation it is left for twelve or fifteen hours, generally through one night, when the doors and windows are opened. When the room is sufficiently ventilated to admit of going into it, the silk is taken down. The process is sometimes repeated on silk designed for some uses, particularly azure whites.

ALUMING SILK.

When silk is to be dyed, it sometimes undergoes a process which is called "aluming," which is thus performed. A solution of alum water is first prepared by dissolving forty or fifty pounds of alum, in forty

or fifty buckets full of soft water, or in about the proportion of a pound to a bucket full of water. The alum is dissolved in hot water, and then poured into the tub, or other vessel containing the cold water. In doing this, care must be taken to stir it briskly, so that it may mix; otherwise the coldness of the water might produce a chrystalization or congelation, as it is termed by dyers.

The skeins of silk, after being washed and freed of the soap by beetling, are strung together by a cord, care being taken that the hanks be not too much rolled up, or folded one upon another, and steeped in the alum water, for eight or ten hours. They are then washed and wrung with the hands over the tub, that the alum water may not be lost. They are then rinsed in clean water and beetled again when necessary.

In aluming silk, especial care must be taken, that the skeins are not put into the alum water until it is cold, as a warm solution would destroy the lustre of the silk. When large quantities are alumed, it will be necessary to replenish the water with alum occasionally, or the solution will become too weak, to sufficiently saturate the silk.

In performing this process, particular care should be taken, that the alum used be of the first quality. It is often combined with iron, which renders it worthless for the dyer. It is however easily detected by dissolving a small piece of it in distilled or rain water, and adding a few drops of a solution of prussiate of potash. If it be a combination of alum and iron, a blue precipitate will immediately take place.

SUCCESSIVE CROPS OF WORMS IN A SEASON.

It has been often suggested, and with considerable plausibility, that two or more crops of worms, and of course, of silk, might be raised to great advantage in a season. Mr. Comstock in his excellent treatise remarks: "The mulberry renews its foilage in quick succession, and may be deprived of it two or three times during the season, without essentially injuring its constitution. In Tuscany they make two crops of silk annually, and the same may be done in this country. The two crops are obtained by the aid of a peculiar variety of the silkworm, commonly called the 'Two crop worm,' or 'White worm.' This worm, hatched at the usual season of hatching, will make its cocoon, eat out, and deposite its eggs; which may be again hatched the same season, and another cocoon produced."

There can be no doubt of the practicability of obtaining more than one crop of silk in a season; especially with the above mentioned breed of worms; but whether the practice will be attended with any peculiar advantage, time and experience only can determine. I should advise in this as in all cases of untried experiments, if the trial be made, to make it upon a small scale, until experience shall justify its extension.

SILK SOCIETY.

A public meeting of the citizens of Montgomery county, favorable to the formation of a silk society, to be denominatod the "Silk Society of Montgomery county," is advertised to take place on Monday next. the 17th inst., at 2 o'clock, at the house of John Branch, in the borough of Norristown. We are gratified to see that the silk culture is becoming a subject of consideration among the farmers of this and the adjoining counties; and it well may, for we believe that ere long it will be found to be one of the most profitable pursuits of the farmer. In several of the New England States, it has already invited the capitalist and the agriculturist generally, many of whom have found that the profits afford a handsome compensation for the labor bestowed. The establishment of large silk factories there has produced such a demand for the raw material, as to leave it already only half supplied.—[Germantown Telegraph.]

It is a matter of wonder that so little is said and done with respect to breed in so important an animal. We think any thing which throws light on so important a subject, will be acceptable to our readers.

From the Baltimore Farmer and Gardener.

THE MULE.

[Copied by request from the American Farmer, Vol. 7, No. 22.]

PRIZE ESSAY.

[The premium of a silver cup, of thirty dollars value, offered by ROBERT OLIVER, Esq., to the author of the best essay on the natural history of the Mule, and its value for the general purposes of agriculture, in comparison with horses, was awarded by a committee appointed by the Trustees of the Maryland Agricultural Society, to the author of the following Essay:]

A DISSERTATION ON THE MULE,

With the view of promoting an improvement in the breed; and of demonstrating the utility of employing him as a substitute for the horse, in the labors of husbandry, canals, &c. BY SAMUEL WYLLYS POMEROY.

"——OPINION is the queen of the world; it gives motion to the springs and direction to the wheels of power."—JOHN QUINCY ADAMS.

"Knowledge is power."—BACON.

Soon after the accession of Charles III. to the crown of Spain, his subjects were prohibited, by a severe edict, from wearing *flapped hats* and *long cloaks;* which caused an *insurrection* that obliged him to flee from Madrid, after witnessing the massacre of nearly one hundred of his Walloon guards; and might have terminated in a revolution, but for a speedy revocation of the edict and banishment of his ministers. An eminent writer introduces the history of the occurrence, by observing that "it is easier to conquer half the world than to subdue a single prejudice or error, most nations having a superstitious attachment to those habitudes which they derive from their ancestors, that seemed to come along with them into the world, and with which they were nursed and brought up."

Perhaps it may be deemed by many quite as visionary or absurd, to attempt an introduction of the mule as a substitute for the horse, for the purposes of agriculture and hackney employment, as was the project of the Spanish monarch for compelling his subjects to wear the *French costume*, to the exclusion of one they had been so long accustomed to look upon "as a *distinction* which was the birth-right of every true Spaniard," and, as we may suppose, so congenial to the indolent habits for which that nation had long been proverbial.

It must be acknowledged that there are serious, though I trust in this age of improvement, not insurmountable impediments—for we have to combat not only hereditary prejudices, or, to speak more correctly, such as have proceeded from a deficiency of means and want of knowledge, to develope the valuable properties and to subdue propensities of a contrary character in this hybrid race, but we are met at the threshhold by the same species of pride which the Spaniards manifested in regard to their costume, founded on the enthusiastic, I may almost say superstitious attachment to the horse.

It is believed that a vast portion of our fellow-citizens, and I may with propriety add the people of Great Britain, from whom we have derived some inveterate prejudices, as well as those illustrious examples that have had such a powerful influence in leading our country to the high destinies that await her, do not consider that a *mule*, especially a well bred one, would be in himself and in their view, one of the best formed and most distinguished of animals, if they had never seen a horse—they must admit, however, that he holds the second rank instead of the first—and it is principally from this circumstance that so little attention has been paid to him in both countries. Comparison is the chief cause of his degradation—they look at and give their opinion not of himself, but comparatively with the horse. They seem not aware that he is a *mule*—that he has all the qualities of his nature, all the gifts attached to the connecting and final link of two distinct species, and think only of the figure and *qualities* of the horse which are wanting in him, and that he ought not to have; for he possesses those of more intrinsic value, which the Supreme Author of nature has denied to both of his parents.

There are few subjects of animated nature that have engaged the attention of the most eminent naturalists, more than the genus *Equus*, to which the horse and ass, with their *hybrid* offspring, are assigned. *Linnæus*, with a view to establish, by new arguments, his doctrine or theory of the *sexual system* of plants, which *Spallanzani* had attempted to overturn, illustrated their generation by pursuing the chain of nature from the animal to the vegetable kingdom; and has taken prominent examples from the two different productions of mules. He says, "From the mare and male ass proceeds the mule, properly so called, which in its nature, that is, in its medullary substance, nervous system, and what *Malpighi* calls the keel, (*carina,*) *bottom*, in sportsmen's language, is latent in, and derived from, the mare. But in its cortical substance and outward form, in its mane and tail, resembles the ass. Between the female ass and the horse, the other kind of mule is engendered, whose nature or medullary substance resembles that of the ass; but its outward form and cortical structure, or vascular system, that of the horse."*

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* See "A Dissertation on the Sexes of Plants," by

The latter kind was called *Hinnus* by the ancients; hence the modern name *Hinny*. They were not held in much estimation by the Romans, according to Pliny, who describes them as difficult to manage, and so slow that little service could be derived from them. *Buffon* has noticed this animal, which, he says, "is smaller than the mule, as it preserves the diminutive stature of the ass." Hinnys were seldom propagated; but it is said that a number have lately been bred in Spain, probably in consequence of the destruction of mares in the peninsular war, and are represented of good size, and more beautiful than the mule; that is, they resemble the horse much more. I understand a few have been bred upon the Spanish Main, no doubt from a similar cause that led to the system in Spain; and if my information is correct, some have recently been shipped to the West India Islands, but are by no means esteemed so hardy, or valuable for service, as mules.

Notwithstanding mules have a disposition to propagate, there have been but two or three well authenticated instances recorded of their having *bred;* and those productions were considered monsters. *Buffon* was indefatigable in his researches on the subject; and although he admits that it is possible for both males and females to propagate, he is confident that their parents are of a species distinct from each other. He says, "The ass is not a horse degenerated," as some had supposed; "he is neither a stranger, an intruder, nor a bastard—he has, like other animals, his family, his species, and his rank; his blood is pure and untainted, and although his race is less noble, yet it is equally good, equally ancient as that of the horse." This profound naturalist continues a very minute and eloquent comparison between the horse and the ass—some of his expressions I have taken the liberty to apply to the *mule* and the horse in a preceding paragraph.

It may promote the object in view to enter extensively upon the history of the ass, and we commence with the supposition, that when men became so far civilized as to have burdens to *carry*, or required to be *carried* themselves, this animal was the first domesticated for that purpose—and it is reasonable to infer that those of the least *spirit* and most *tractable*, were put in requisition in the first instance; when by breeding *in and in*, without any care in the selection of *sire* or *dam*, became in process of time degenerated to a very inferior grade. Be this as it may, it is an unquestionable fact, that different races of the ass now exist, possessing properties as distinct as are found in the species of *camel*. For instance, the *Bactrain* or single bunched camel, called the *dromedary*, by far the most numerous race, being lightly formed, exhibits great activity, and is able to traverse vast tracts with the speed of a *high mettled race horse*. The *Arabian* camel, with two protuberances on his back, is considerably larger, of much stronger form, travels at a pace seldom exceeding three miles an hour, and is capable of conveying such burdens, that the Arabs style him, emphatically, the *ship of the desert;* yet they are of the same species—a cross between them breed and constitute another variety, which multiply, and according to Buffon, have the most vigor, and are preferred to all others.

Ancient writers recognize three or four distinct varieties of the ass. According to the learned Dr. Harris, four different races are indicated in the original Hebrew Scriptures, viz. *Para, Chamor, Aton*, and *Orud*.*

The wild ass, (*Para,*) was a native of *Arabia Deserta*, and those countries which formed the great *Babylonian empire*. They are now found in *Southern Tartary*, in the mountainous districts and saline plains of *Persia*—are migratory in large herds, visiting in winter the northern parts of *India*, and said to be so fleet that no horse can overtake them in the chase. This race are frequently alluded to by the inspired *poets* and *prophets;* and afford *similies* diametrically opposite to those drawn from the domestic race. The sublime description of the former in the book of Job, exhibits such a contrast, that I trust its insertion in this place will not be deemed improper.

"Who from the forest ass his collar broke,
And manumized his shoulder from the yoke?
Wild tenant of the waste, I sent him there
Among the shrubs, to breathe in freedom's air.
Swift as an arrow in his speed he flies;
Sees from afar the smoky city rise;
Scorns the throng'd street, where slavery drags her load,
The loud voic'd driver and his urging goad;
Where e'er the mountain waves its lofty wood,
A boundless range, he seeks his verdant food."
[SCOTT'S VERSION]

We find, that at a very early period of sacred history, the common domestic ass (*Chamor,*) was employed in all the menial labors of a patriarchal family, while a nobler and more estimable animal (*Aton*), was destined to carry the patriarchs, *the well born*, and those on whom marks of distinction were to be conferred. They constituted an important *item* in a schedule of the pastoral wealth of those times; of course, attracted particular attention and care. *David*, we are told, had an officer, apparently of high dignity, appointed expressly to superintend his stud of *high bred asses*, or *Atonoth*.

There was another race that has been mentioned by *Aristotle*, and by *Theoprastus*, whom Pliny quotes, which they denominated the *wild mules* that *bred* (*hemi-onos,*) and were found in Cappadocia and Africa. There can be but little doubt but this is the *Hemionus*, or *wild mule* of the Mongalian Tartars, so particularly described by professor *Pallas;* and that it is not a *hybrid*, but actually of the species of ass resembling a mule. This race is identified by Dr. Harris with the *Orud* of Scripture.

The wild ass of Northern and Western Africa, whose flesh was so much admired by the Roman epicures, may, I believe, be ranked as another distinct race. Adanson, a French naturalist, who visited the river Senegal more than half a century ago, describes those brought from the interior by the Moors, as so essentially different from any he had seen in Europe, (probably those of Spain, Savoy, or parts of France adjoining,) it was with difficulty he could recognize them to be the same species—neither do they answer the description of the wild ass of *Asia*, of which we have been speaking. But his account of them corresponds with the *diminutive* domestic race introduced from Africa, particularly those from *Senegal* and the *Cape de Verd Islands;* and from which the small race now in Europe and in this country, may with great probability claim their origin.

The *Arabian* ass, like the horse of that country, is considered as the most estimable of his species—and there are strong reasons for concluding that he is descended from the Hebrew *Aton*, so highly valued by Abraham and by the patriarchs, judges, and kings, at subsequent periods of sacred history; and that the same race has been preserved in the ancient *land of Uz*, in some degree of purity to the present time. Indeed, there can be but little doubt on the subject, if we admit the fact, that the habits, manners, and pursuits of the descendants of *Ishmael* have continued, with scarcely an *iota* of variation, from the day they took rank among the nations of the earth. The position is greatly strengthened by the information I received some years since, from an intelligent traveller of undoubted veracity, who had visited *Arabia* on the south-western side of the peninsula to *Mocha;* and on the eastern, as far as the mouth of the *Tigris*. He represented the *superior* race of asses of that country as most beautiful—of perfect symmetry, great spirit, activity, and vigor. He had seen those that could not be purchased for less than *four or five thousand dollars*—an enormous price, considering the value of money among these people.* I understand from him, that the Arabs were as tenacious of preserving the *pedigree* of their *horses*, as the most careful breeder for the *turf* in England—and not less so of their *asses*. The descent of some of them they trace to those in the train of the queen of Sheba, when she visited Solomon—as they also do that of their *horses* to the numerous *stud* of that wise and gallant king.

Dr. Harris supposes the *wild ass* (*Para,*) to be the *Onager* of the ancients; and that the *Aton* was of a different kind. My impressions coincide with the opinion of the learned divine—but may not writers of different periods have confounded the wild ass with the Aton in their representations of *Onager?* for it is not improbable, but that the *Aton* was of the most improved breed known, produced from crosses of a choice selection of the domestic, the wild ass, and the Hemionus, or wild mule—which last professor Pallas recommends to complete the perfection of the species. This supposition is supported by *Buffon*, who infers as a certain fact, that by a cross of the remotest of different races of the ass, the most beautiful productions are obtained.

Mules were in use and highly esteemed at a remote period of antiquity; and are mentioned in Scripture as of importance in the equipage of princes. Herodotus, who is styled the *father of profane history*, frequently speaks of them; and it is known that they were introduced in the *chariot races* at the Olympic games, in the seventieth Olympiad, about five hundred years before Christ. The Romans well knew their value. Pliny informs us, from Varro, that *Q. Axius*, a Roman senator, paid four hundred thousand sesterces, upwards of *thirteen thousand dollars*, for a *mule ass*, for the propagation of mules. And he says further, that the profit of a *female ass* in breeding stock for the same purpose, was estimated in *Celteberia*, now the kingdom of Valencia, in Spain, at a like sum. We

Sir Charles Linnæus—read before the Imperial Academy of Sciences at St. Petersburgh, Sept. 6, 1760, and which obtained the premium of one hundred ducats.

* See the "Natural History of the Bible, by Thaddeus Mason Harris, D.D., 1 vol. 8vo., Wells and Lilly, Boston." A work I would earnestly recommend to those readers of the sacred volume, who are desirous to be better acquainted with many allusions to subjects of natural history, founded on their nature, habits, and characteristic qualities, developing beautiful similies, which would otherwise lie concealed—and enabling them to judge more correctly of the propriety of such allusions.

* Neibuhr remarks, "there are two sorts of asses in Arabia: the smaller, or lazy ass, as little valued there as in Europe; and a large and high spirited breed, which are greatly valued, and sell at a very high price; I preferred them to the horse." See Neibuhr's Travels in Arabia.

may infer from a passage in *Tacitus*, and in Plutarch's life of *Marius*, that *mules* were generally employed to transport the bag gage of the Roman armies; and that it is not improbable the superior officers rode those of a high grade, having their horses led, except when they engaged an enemy. It seems that the *dilletanti* of Rome held them in great estimation; as we are informed that the mules of *Nero* and *Poppea* were shod with *gold* and *silver*—not *plates*, as iron shoes are now formed, but the *whole hoof* enclosed.

Columella, who in the reign of Emperor Claudius published the most valuable treatise on the husbandry and economy of the Romans that has been handed down to us, has given very particular directions for breeding *asses* and *mules*. He was a native of *Cadiz*, and owned estates in Spain, where it appears that the finest mules were then bred.

(To be continued.)

From the Genesee Farmer.

GEOLOGICAL SURVEY OF THE STATE.—Agreeably to a resolution of the Assembly of last year, the Secretary of State has made a report in relation to a geological survey of the State. He had been requested to report the most expedient method of obtaining a scientific and perfect account of its rocks, soils, and minerals, and of their localities; a list of all its mineralogical, botanical, and zoological productions with specimens; and an estimate of the expenses, including the cost of publishing three thousand copies of such report, with drawings and a geological map. We consider it a very able state paper.

The great importance attached to such investigations may be better understood by some of our readers, if we refer to the munificence of STEPHEN VAN RENSSELAER, who employed Professor Eaton, with assistants, four years in making a geological and agricultural survey of the district adjoining the Erie Canal, besides being at the expense of various other examinations of great extent. This was performed twelve or fifteen years ago. Since that time Massachusetts, Tennessee, the two Carolinas, and Maryland, have either caused or directed geological researches to be made within their respective limits; and Virginia, New-Jersey, and Pennsylvania have the subject before them. With these examples in view, we hope "the Empire State" will not prove recreant in the cause of science and practical utility, when her ample means so fully enable her to develope her own resources. The discoveries which her geologists may make, would be only a part of the benefits to be derived from this enterprise. Hundreds of her citizens would be stimulated to make closer observations; and when explorations shall be conducted in the broad light of science, we shall hear but little more of fortunes wasted in searching for minerals, or of the fruitless toils of the miner.

A few years ago £80,000 sterling were expended in searching for coal at Bexhill, in Sussex, England, "when," as Sir J. W. Herschell observes, "every geologist would at once have declared it abortive." "Mr. Townsend informs us," says Malte Brun, "that a pit was sunk for coal to the depth of six hundred fathoms at Bruham, near the chalk hills of Bradley-Nole, and that the miners reached only to the uppermost beds of the great oolite." The history of mining operations in England abounds with such examples. It may be mentioned on the authority of the last writer, that the commissioners of the Bath roads, sent ten miles for flints, while their wagons actually passed, without their knowing it, over a bed of flints for the greater part of the way. The stone of which the Bath Cathedral is built was conveyed from the distance of four miles; it was not then known that the same stone might be obtained in the immediate vicinity; quarries have since been opened. If errors of a like nature are now less frequently committed—if pits are not so often sunk in vain—it is because *practical men have availed themselves of the discoveries of geologists.*

To these statements we may add the expensive attempt to procure salt water on the south shore of Lake Erie, in the neighborhood of Portland, which any geologist acquainted with *the dip of the strata* would at once have pronounced hopeless.

The Secretary proposes to divide the State into four districts. The *first* to consist of all the counties lying to the south or east of Delaware, Schoharie, Schenectady, and Saratoga, which are also to be included—containing 12,263 square miles. The *second* district to comprise the counties of Warren, Essex, Clinton, Franklin, Hamilton, and St. Lawrence—containing 9,692 square miles. The *third* district to include all the other counties adjoining the Erie Canal and lying north of it, to the west bounds of Genesee and Orleans—containing 12,293 square miles. The *fourth* district is to consist of the remaining (14) counties, which are estimated at 11,594 square miles.

To each of these districts, it is proposed to appoint two geologists and a draughtsman, and one zoologist and one botanist for the whole State, each to be accompanied by a draughtsman. It is supposed that four years will be required to complete the survey; and the whole expense, including that of publication, is estimated at $104 000. A lower estimate, however, has been made on the suggestion of confining the examinations to geology; but we must indulge the hope that our legislators on this occasion will act with a liberality worthy of themselves and of their country.

AN ADDRESS TO THE ESSEX AGRICULTURAL SOCIETY,

At Danvers, September 30, 1835, at their Annual Cattle Show.

BY DANIEL P. KING.

Mr. President and Gentlemen:

The seventeenth anniversary of your Society has brought together the farmers of the county, to exchange their friendly greetings and heartfelt congratulations; it has given you opportunity to renew and extend your acquaintaince amongst men of common habits, feelings and pursuits—to take by the hand many practical and enterprising husbandmen in whom you have long been interested—men who have instructed and encouraged you by their precepts, their example and their success; it has redeemed one day from the busy round of a farmer's ever active life, and devoted it to social intercourse, and sober, manly enjoyment. Had your Society been productive of no greater benefits, it would still have deserved all the countenance and encouragement which it has received from the State and from an enlightened community. But social enjoyment and an occasional relaxation from the tediousness of business are not the only, nor the principal benefits which have resulted from your association. It has exerted a powerful influence, by awakening a spirit of inquiry and emulation, by introducing new varieties of vegetables and fruits, an improved stock of cattle and improved methods of husbandry, by exposing erroneous but long cherished opinions, by diffusing knowledge and encouraging enterprise and industry. A worthy clergyman, himself a practical farmer, says that the expense of cultivation in the county of Plymouth had been thought to exceed the amount derived from it; but that the Agricultural Society has proved that labor and skill can make even despised soils productive. "I suppose," says he, "that ten bushels of rye to the acre, twenty of Indian corn, one ton of English hay, and two hundred bushels of potatoes, were formerly considered as average crops. Since premiums have been offered, we have claims for from forty to fifty bushels of rye, from one hundred and fifteen to one hundred and twenty-two of Indian corn, from three to four tons of English hay, and from four to five hundred bushels of potatoes. Our improvements have not been confined to single acres; in several instances, the products of entire farms have been more than quadrupled." I will not say that the Essex Agricultural Society has effected so much good, or that it has effected all the good of which it is capable—but I will say, without the fear of contradiction, that your Society has done more good, much more good, than it has ever had credit for. And I ask the observing, experienced, practical farmers, who compose so large a part of this audience, if within fifteen or twenty years, the produce of many farms within their knowledge has not been nearly doubled? Have not the crops of hay, of corn, and of other kinds of grain, increased on an average from fifty to one hundred per cent.? Have not ploughs and other agricultural implements been much improved? Do not you more frequently hear of cows which yield from fifteen to twenty quarts of milk per day, and which make from ten to sixteen pounds of butter in a week? Are not working oxen of handsomer appearance, better trained and more powerful? If you answer yes, as I believe you will with united voices, to what causes will you attribute the improvement? I ask honest, practical, discriminating farmers to what cause they *can* attribute the improvement but to the influence of Agricultural Societies, to the impulse they have given to enterprise, to the spirit of emulation they have awakened, and to the knowledge they have been the means of diffusing? The influence of such associations is not always direct and obvious; like that of the dew and the air, it is a blessing too common, noiseless and unostentatious, to be felt or acknowledged by the inconsiderate and unreflecting. There are few men who will be long content to follow a rough, hilly and circuitous path, while their neighbor travels a smooth, direct and pleasant road, which brings him with more expedition and safety to his journey's end: there are few farmers who will be content to toil and drudge from year to year in the same dull round which

their fathers followed for a bare subsistence, while they see their more enterprising neighbors in the full tide of successful experiment, becoming richer and more prosperous from having adopted the improved methods of husbandry. Does any farmer seriously complain that he has derived no benefit from Agricultural Societies, that he has not been instructed by their publications, that he has not been enlightened by the knowledge they have diffused? If that farmer has not connected himself with the Society, has not read its publications nor followed its recommendations, it would be no less unreasoable for him to complain that his corn would not vegetate before he had committed it to the earth and while it remained in his granary—it would be no less unreasonable than the complaint of the hypochondriac that he is not warmed by the sun, while he secludes himself in his chamber and bars his doors and his windows. Many farmers have suffered their minds to be prejudiced by an unfounded and an unreasonable distrust of Agricultural Societies, as encouraging and sanctioning book farming. It may not be unprofitable to inquire how books on husbandry are cpmpiled. A practical farmer in Andover, for instance, has raised large crops or potatoes, another in Haverhill has had great success in the cultivation of rye, another in Newbury has raised superior wheat for successive years, and many other famers in various parts of the country, have been successful in the cultivation of the several crops to which they have given particular attention; actuated by the scriptural injunction to "do good and communicate," they write detailed accounts of their several methods of cultivation, and send them to a common friend, a farmer well read and experienced; he carefully examines the communications, received from sources which he knows are entitled to confidence, he arranges them, winnows out the grain, and garners it up in a book. And now is there any thing like legerdemain or cunning in this? Is there any thing suspicious about it? Had you visited any one of the farmers who have made a communication, and witnessed with your own eyes his field luxuriant with the growing crop, or burdened with the ripened harvest, and heard the detail of his management, you would not have hesitated to believe his statement, nor to adopt his practice. The mere act of publishing it cannot make his statement the less deserving your confidence, nor the improvement the less valuable. We will suppose that for the purpose of making further inquiries and explanations, the gentleman to whom the communications were sent, invites his friends in the different sections of the country to meet him on an appointed day; they come together and discuss what methods of husbandry are best calculated to make abundant harvests, and freely express their opinion on all subjects connected with rural economy. These practical farmers derive so much pleasure and satisfaction from the interview, that they resolve to have regular meetings at stated intervals, and for the sake of encouraging experiments, and promoting improvements and industry, they determine, from funds in their possession, to offer premiums to successful competitors. Here is an Agricultural Society, and here is a Cattle Show. Is there in all this any thing of combination or treason? Is there any thing which threatens the liberties of the people or the safety of the Commonwealth? Your Society has to contend with the coldness and indifference of its friends, rather than with the malice of its enemies—it has no open and declared enemies, and I am sure that you have no wish to conjure them up merely for the sake of giving them battle. You have beat your swords into ploughshares and your spears into pruning hooks—you delight more to train the vine than to bend the bow, to swing the scythe than to wield the lance. The well cultivated field is the field of the farmer's glory; his highest ambition, to improve it; if he has doubled the produce of his farm, he feels that he has achieved a nobler victory than if he had conquered armies or subdued empires. And we invite the yeomanry of the country to join in this honorable competition—we invite practical farmers, the men of broad shoulders, muscular arms and strong hands, to connect themselves with the Society, and by their experience and their example, to help in the promotion of its interests and the advancement of its prosperity. Your united efforts can make this institution an honor and a blessing to the whole farming community. Will you not use your endeavor to strengthen and sustain a Society which was formed for your advantage, and which subsists only for your benefit? In recommending to you to try experiments and to study the periodicals and books devoted to husbandry, I do not advise you to an universal and indiscriminate adoption of any man's rules or opinions. I would not have a farmer go into the field with a book in one hand and a hoe in the other; such a practice would lead him to the result of a certain visionary farmer who complained "that the carles and cart avers make it all, and the carles and cart avers eat it all"—the labor and expense of cultivation more than balance the value of the crop. But the farmer should read and ponder and deliberate; he should study and reflect, and adopt such rules and methods as he finds applicable to his own soil and circumstances. A judicious practice, enlightened by sound theory and science, will effect wonders for Agriculture, the mother and nurse of the arts, as it has done for all her children and dependants. Unless theory and practice walk hand in hand, mutually helping and encouraging each other, we cannot hope that Agriculture will keep pace with the improvements of the day, or that she will ever arrive to the perfection of which she is capable.

But let it not be inferred from these remarks, that the public interest in the subject of agriculture has declined, that the permanence of this Society is in danger, or that its prospects are less promising than they have been. This large and respectable assembly would contradict such an opinion; the long and regularly increasing list of members would confute it. The number of animals in your pens, the well contested ploughing match, the products of the dairy, the exhibition of manfactured articles, elegant and varied in their qualities, are satisfactory evidence that the usefulness and prosperity of your Society have not declined. The fruits and flowers exhibited on this occasion are witnesses of the increasing interest in the object of your association, too welcome and beautiful to be overlooked. We hail these signs as omens of good for the future, not doubtful nor uncertain. From the examination of all these fruits and flowers, the products of the earth, the beasts of the field, the beautiful specimens of the cunning workmanship of ingenious hands—all made for man's use and enjoyment—from the liberal abundance of those well furnished tables, we have come up into this temple of the Lord to offer Him the incense of deeply affected and grateful hearts. By hymns, and solemn prayer, and thanksgivings, we have testified our gratitude for the regular return of summer and winter, seed time and harvest, for His loving kindness which has crowned the year, and for His tender mercies which are over all His works. But our professions of gratitude are like false blossoms on the vine, beguiling us with the hope of fruit, if they are not accompanied by grateful conduct as well as by grateful affections—they are like fungous ears on our corn stalks, fair in their outward appearance, but within full of all uncleanliness, if they are not followed by obedient, virtuous lives. To a benevolent benefactor, a proper improvement of the gift is the most acceptable acknowledgment. Have we as farmers made such a practical acknowledgment for the blessings by which we are surrounded? Have we no neglected corner over which the lazy demon of sloth has long brooded in slugglish inactivity, and which the busy hand of industry would make as blooming and as fruitful as a garden? Have we no meadow abandoned to bulrushes, flags, and croaking frogs, which a little draining and dressing would cover with valuable crops? Are not our pastures infested with briars, thistles and bushes? Are there not in our fields hosts of weeds contending with the corn and potatoes for the mastery, and which will certainly gain the victory unless we come to the rescue? Are there by our walls no belts of bushes, every year making wider and wider encroachment upon our cultivated lands? Are there in our fields, no loose rocks and heaps of stones, obstructing the plough and the scythe, and, like blotches on the fair face of beauty, disfiguring the prospect? Have we no ruinous, dilapidated fences tempting cattle otherwise orderly and well behaved, to overleap the modesty of their nature, and to commit breaches against the peace of the neighborhood? Have we in our gardens no uninvited, intruding guests, plants which we have neither sowed nor watered, which we might offer as a most acceptable dessert to those epicureans of our establishment, who place the supreme good in pleasure—the pleasure of living at ease, of faring luxuriously, and of growing fat? Is it not our fault that these idlers have no better employment than to speculate and philosophize? Have we no rich alluvial deposits in ditches, swamp

holes, or sunken meadows, from which we might make drafts that would return us a liberal interest? Have we no naked, hungry, exhausted fields with imploring accents begging us to come and dress, feed and recruit them? In balancing our accounts, do we find that we owe no man aught except love and good will? Every good farmer finds it pleasant and profitable to keep a journal in which he notes every day's employments and incidents; in reviewing ours, do we find no necessary labor neglected? Is the place where our example and influence are most felt, a pattern of order and neatness, of well regulated economy as well as of a liberal abundance? Is the place where our affections centre, where we most wish to be loved and hope to be remembered, is our home, the happy abode of peace and harmony and contentment? Have we discharged our social and moral obligations —our duties to ourselves and to our neighbor? We profess admiration and gratitude for the air we breathe, for the sun that warms and enlightens and cheers us, for the innumerable comforts of our existence, for this spacious, beautiful, and convenient world; but have we been faithful to that portion of His vineyard over which God has set us as stewards and overseers? If we can make satisfactory responses to these questions, then have we cause for accumulated gratitude, that, in the disposition and ability to improve and enjoy, He has given us the crowning blessing.

An orator, with a mind well freighted with learning, or whose lighter imagination soars on bold, rapid, and graceful pinions, would lead his delighted audience back into distant ages, and over into foreign countries —he would tell you of Italy, once the garden of the world, now as degenerate in morals as in husbandry—of England, made one great specimen farm by thorough cultivation and plentiful manuring—he would talk to you of Parnassus, and Tempe, and Helicon, of the beauties of nature, the decorations of art, and the embellisments of fancy. But I will not affect the learning I have not —I will not borrow wings which would but betray my awkwardness in the use of them. And it is not with foreign climes, nor antiquity, it is not with poetry nor fiction, it is not with Hesperian lands nor with Eastern lands, that we, as farmers, have to do. Let us recall our wandering thoughts, and fix them on our own times and neighborhood, on our own farms and homes. It is enough for us to know that farming has always been an honorable pursuit when it has been honorably followed; that it will always be an honorable, profitable, and fashionable occupation as long as men continue the somewhat inelegant, but not altogether unpleasant or unnecessary habit of eating and drinking. Let farmers remember that they have inherited a character distinguished for sobriety, honesty, temperance, industry, frugality, and manly independence; let them strive to sustain and elevate this character.

But my friends, a grave charge has been preferred against us, seriously affecting our character as good farmers and honest men, and I fear too many of us must plead guilty. We have been called extortionate and austere—not precisely charged with robbing widows' houses or with reaping where we have not sown, but with extorting too many crops from our fields without making them a due return, with exacting too much of them and of withholding their deserved wages: we have been accused of cropping our lands severely without cultivating and manuring them in any reasonable proportion, of mowing our fields many years in succession till their over taxed, exhausted energies can yield us nothing more. The high prices of labor and manure, and the difficulty of obtaining them, have been alleged as excuses for this thriftless and cruel practice, and there is something of truth and more of plausibility in the defence. As a remedy for these evils, and a sure way of improving your land, I can do nothing better than to recommend to you the method practised for several years with great success by Elias Phinney, Esq., of Lexington. A farmer should use his eyes as well as his hands—he should be willing to learn from the experience of others as well as from his own. From the fields of Lexington we may learn lessons of husbandry as well as lessons of patriotism. There is nothing selfish or exclusive in the feelings of an enlightened and enterprising farmer; with him, next to the pleasure of receiving information, is that of communicating instruction. Without offering an apology to Mr. Phinney, I shall make an extract from his Address delivered before the Society of Middlesex Husbandmen and Manufacturers in 1830; nor shall I ask your indulgence for using the sentiments and words of another, for this may be the only part of my remarks which needs no indulgence. "In May, 1828, the field (the soil of which is thin loam upon a gravelly sub-soil) having lain three years to grass, and the crop of hay so light as to be worth not more than the expense of making, with a view of ascertaining the quantity of vegetable matter upon the surface, I took a single foot square of green sward, and after separating the roots and tops of the grasses from the loam and vegetable mould, it was found on weighing to contain nine ounces of clear vegetable substance, giving, at that rate, over twelve and a quarter tons to the acre. This convinced me of the importance of taking some course, by which this valuable treasure might be turned to good account. That a great part of this vegetable matter is exposed to useless waste, by the usual mode of ploughing, cross ploughing and harrowing, must be obvious to any one. In order, therefore, to secure this, as well as the light vegetable mould at and near the surface, which is liable to waste from the same causes, I had two acres of the green sward of this field turned over with the plough as smoothly as possible. After removing the outside furrow slices into the centre of the plough-land, and thereby effecting the double purpose of covering the vacant space in the middle, and preventing ridges at the sides and ends, the field was rolled hard with a loaded roller, by which the uneven parts of the furrows were pressed down, and the whole made smooth. It was then harrowed lengthwise the furrow, with a horse harrow, but so lightly as not to disturb the sod. Twenty cart loads of compost manure, made by mixing two parts of loam or peat mud with one of stable dung, were then spread upon each acre. It was then harrowed again as before, and then the poorer part of the soil, which had been turned up, and remained upon the surface, was thereby mixed with the compose manure. Corn was then planted in drills* upon the furrows, the rows being at the usual distance and parallel with the furrow. At hoeing time the surface was stirred by running a light plough† between the rows, but not so deep, at this or the subsequent hoeing, as to disturb the sod. What Mr. Lorain calls the "savage practice" of hilling up the corn, was cautiously avoided. In the early part of the season, my cornfield did not exhibit a very promising appearance; but as soon as the roots had extended into the enriching matter beneath and began to expand in the decomposing sward, which had now become mellow, and more minutely divided by the fermentation of the confined vegetable substances beneath, than it could have been by the plough or hoe, the growth became vigorous, and the crop, in the opinion of those who examined the field, not less than seventy bushels of corn to the acre. As soon as the corn was harvested, the stubble was loosened up by running a light horse plough lengthwise, through the rows, the surface then smoothed with a bush harrow, and one bushel of rye, with a sufficient quantity of herd's grass and red top seed, to the acre, was then sowed, the ground again harrowed and rolled. The crop of rye was harvested in July following, and the two acres yielded sixty-nine and a half bushels of excellent grain, and over five tons of straw. The grass seed, sowed with the rye, took well, and the present season I took, what those who secured the crop judged to be two and a half tons of the very best of hay from each acre.

Thus, with one ploughing, with the aid of twenty cart loads of compost manure to the acre, I have obtained two crops of grain, and stocked the land down to grass."‡

The great object of the farmer is to obtain the most valuable products, with the least possible labor, and at the same time to keep his farm in a state of progressive improvement; by this method large crops have been obtained with a small expense of labor and manure—but some of little faith may object that it is the result of a single experiment, that there may have been something peculiar in the soil or the seasons, that with others it would have been a complete failure, and that most likely the land soon became exhausted. But Mr. Phinney has practised and continues to practice the same kind of husbandry with the same success, and with increasing confidence. The field on which he made the experiment which he has so clearly and satisfactorily detailed,

* It might be planted in hills, if that course is preferred.

† Mr. P. now uses the cultivator instead of the plough.

‡ William Clark, jun., of Northampton, and Daniel Putnam, of Danvers, have adopted similar methods of husbandry, and have been very successful.

has remained in grass till the present season, and has continued to yield two tons of good hay to the acre, without any top dressing. Other farmers have followed the same method on a great diversity of soils, and although a plain field and a loamy soil may be best adapted to the purpose, there are none except very wet or very rough and rocky grounds which cannot be greatly improved by it. There is nothing unreasonable or unphilosophical in this method, and success would seem to follow it as naturally as effect follows cause. I know that there are many farmers who believe that the *good old way* is the best way, but let the most incredulous of these visit the farm of Mr. Phinney, which but fifteen years ago produced but nine tons of hay and which now produces seventy; let him go into those well mellowed fields and see the corn waving in its beauty and ripening into a golden harvest, yielding nearly one hundred bushels to the acre, and potatoes in equal abundance; let him witness all the improvements of that well managed and thoroughly cultivated farm, (which, in natural advantages, perhaps, does not exceed his own,) and that sceptical farmer, who went out hesitating and unbelieving, will come home with a settled conviction that Mr. Phinney is a farmer of great skill and enterprise, enlightened by a sound judgment: he will cheerfully admit that his method of cultivation is a great improvement, and he will apply it to his own farm as far as his circumstances will allow. I should not have dwelt so long on this subject, if, from my own observation and the experience of others, I had not been fully satisfied that the adoption of a similar method of husbandry would be beneficial to our own fields. Let the farmers of Essex try the experiment; the expense will be but trifling; the advantages may be great; and if, by chance, they should fail of success, they will have the satisfaction of having at least *attempted* an improvement.

The business of the farmer requires his constant care and inspection; he must not intrust it to another; if he expects his work to be well done, he must do it himself, or at least see it done. How many farmers have been misled by the notion that their respectability and consequence in society is commensurate with the number of their acres, forgetting that it is the *condition*, and not the *size* of their farms, which gives them a character. This desire to be considered the owner of a wide domain has been a fatal snare to many who might have enjoyed their homestead in peace and plenty—it has involved them in pecuniary embarrassments, which have driven them sorrowing from the very fields, perhaps, which their ancestors reclaimed from the wilderness, to seek for themselves and their little ones a habitation amongst strangers, or in some distant, solitary wild, where the voice of a stranger would be welcomed as the voice of a friend. When it is matter of choice, the best sized farm is that which the owner has skill, capital and energy to manage to the best advantage. A mistake similar to this, and of the same disastrous consequences, has led some farmers into extravagance in the size of their houses, extravagance in furnishing them, and extravagance in their style of living. How many kind hearted, pains taking, industrious farmers, forgetting that "it is the eyes of others, and not our own, which ruin us," have been lured by the false glitter to rivet on the chains which have afterwards galled them to the quick! No man, except a landlord, wants a larger house than will accommodate his family, and occasionally his friends. Let every farmer, then, who is about to build, first sit down and count the cost, then let him consider at how much less expense a house of moderate size is furnished and kept in repair, and how much less labor is required in sweeping and scouring, (it will be prudent to make the calculation, although it may not be prudent to intermeddle with the operation); and then let him seriously reflect how small a house will hold his tried, valued, and true friends. A man of ample fortune will consult his taste—he may think that a large mansion, costly furniture, and a corresponding style of magnificence will increase his happiness—let him try it, for bank bills are as worthless as the seared and withered leaves that are put into circulation by an autumn gale, and specie as valueless as the pebbles washed by the waves of the sea, if they do not contribute to the happiness of their possessor, or if they are not in his hands the means of conferring happiness on others. But before the man of wealth indulges in such profusion, if he is a philanthropist, he will remember that his example may be followed by those who cannot so well bear the expense; if he is a father, he will remember that his children will hardly be content with any situation or manner of living inferior to those to which they have been used under the paternal roof.

If I had not already trespassed too far on your patience, I would speak of the importance of domestic manufactures, as affording the only ready and constant market for the surplus productions of your farms, and as indispensable to the real independence of the country—I would say something of the cultivation of mulberry trees and the rearing of silk worms, as affording a profitable and pleasant employment at home for those members of your family whose health and whose virtue might be too much exposed abroad. There are many other topics of domestic economy of great interest, but most of them have been learnedly, or what is better, practically, treated by gentlemen who have addresed you on former occasions. But there is one subject which is becoming so important, and the evils of which are so general and serious, that you will be disposed to allow it a moment's consideration. I mean the difficulty of obtaining experienced, able and faithful *help*. The complaint has been growing louder and more frequent, and a remedy is most desirable. But a few years since, for the reasonable compensation and the kind treatment they always deserve, we could easily find diligent and faithful young men and young women who were willing to afford us their assistance—and a mutual benefit was received and conferred, and readily acknowledged—it was an exchange of good offices; while they cheerfully gave us their assistance and attention in the labors of the farm and of the house, they were learning the principles of good husbandry and good housewifery—they were preparing themselves for that station in life to which every young man and young woman should be looking forward, to the relation of husbands and wives, to the situation of masters and mistresses of families of their own. A well managed farm and a well regulated household are almost the only schools where this preparatory education can be acquired by the young; they must learn to obey before they can be fit to command; they must learn the lessons of good management before they can practise them. And let them be assured that there is nothing dishonorable or degrading in attending this school, or in learning these lessons, for there is no station or occupation which is not reputable when honorably followed, and they, and they only, are useful and worthy members of society who are engaged in some useful employment. Captivating as the charms of beauty may be, and fascinating as are some of the polite accomplishments, let no young woman rely so much on these means of obtaining admiration and securing affection, as on the ability to make herself useful; for although a lover may be blind, a husband has eyes—although music, and painting, and dancing, and embroidery may be very pleasant amusements, and afford gratification for a leisure hour, there are other hours besides those of dalliance and revelry, and other senses besides those of seeing and hearing—senses, too, which have more imperious demands; and there is danger that the wife or the mother who is not prepared to answer these constant demands, beautiful and elegantly accomplished though she may be, will not long appear graceful or lovely in the eyes of her husband. Some circumstances of fortune or station or delicacy of health may make it unnecessary or improper that a woman should perform active labor with her own hands, but there is no rank or station in which a lady can be placed where it is not desirable that she should know how the affairs of her household ought to be managed. I know that I give but cold and feeble utterance to the feelings of this Society in bidding a welcome, a cordial welcome, to that portion of the fairer and gentler sex who have honored this farmer's holiday with their presence—without their encouraging smiles and cheerful assistance, even farming would be dull business. I cannot offer for their consideration a better sentiment than that contained in the words of a learned, elegant, and distinguished foreign lady, who says, "the only celebrity that can increase a woman's happiness, is that which results from the esteem excited by her domestic virtues"—and I will add, there is no praise, no applause, no glory in the wide world more worthy a woman's ambition, than the fame of a well regulated household.

But pleasant, healthful, and indispensable as the labors of the field and of the kitchen and the dairy may be, and excellent as is the course of discipline, both for the body and the mind, there is danger that too many young men and women will prefer what they

consider a more fashionable employment and a more elegant education. And you, as a Society, perhaps cannot do much to expose the mistake or to remedy the evil. It has, however, occurred to me that it would be no perversion of your funds if you were to offer suitable premiums to such faithful, diligent, temperate, and skilful man or woman as had remained for one or more years in the employment of any member of the Society; besides, as an additional encouragement and reward for their faithfulness, they might receive the Society's certificate, accompanied by some useful treatise on rural economy or domestic duties, such as Fessenden's Complete Farmer, for the males, and Mrs. Child's Frugal Housewife, for the females, so that the very means of rewarding should be an encouragement and guide to greater excellence.

But if, as members of this Society, you can do but little to remedy the evil abroad, as members of a more limited society, you can do much to remedy it at home. Fathers and mothers, you stand at the fountain; with the lightest trace of your finger on the yielding soil you can give a direction to the infant stream. You can send it gliding down through verdant fields and flowery lawns, imparting new fertility and beauty, and anon contributing its strength to propel the complicated machinery of industry: or you can send it dashing, foaming over precipices, to join with other impetuous, headlong streams, carrying devastation in their course: or you can suffer it to roll its sluggish way into some stagnant pool, affording a refuge for loathsome reptiles, and poisoning the atmosphere with its pestilential vapors. In infancy, and at home, the deepest and most lasting impressions are made; your children may have able and faithful instructors, but there are many lessons of practical wisdom which are not taught in the schools. The mind of your child is constantly busy—he will be learning a lesson of you when you least think of it. To your child your remark is wisdom; your observation, experience; your opinion, sound doctrine; and your word a law; your child is learning a lesson from every look and action—but most of all, your example is educating your child. It is a book constantly open before him, and which he is constantly studying. Be careful, anxious father, fond mother, that you insert no page which hereafter you may wish to tear, no line you may wish to blot—be careful that you admit into that much read volume no sentiment which you are unwilling your child should transcribe on the fair tablet within his own innocent bosom.

Fear not that I am about, at this late hour, to inflict on you a lecture on general education. Schools, academies, and colleges have been founded for the education of the mind and the heart; to these we must leave them; but what has been done to encourage the education of the hand? The heart and the mind should indeed be enlightened, pure and undefiled, but the hand must be busy and skilful. The great secret of happiness consists in never suffering the energies to stagnate. Fortunately, in the farmer's business there is no want of constant employment—if you can accustom your children to patient and cheerful labor, you have secured for them the means of happiness and independence. In other stations of life there may be unfortunates,

> "Stretched on the rack of a too easy chair,
> Who, by their everlasting yawn, confess
> The pains and penalties of idleness"—

but this mortal sin should never invade a farmer's dwelling. In training your children to a willing industry, do not over-task their strength—let them feel that they can be useful, and that their assistance is valued.—There are various employments in the house, the garden, and the field, that are adapted to their tender years; never let their labor be such in kind or amount as shall make it disgusting, and if possible make them derive from their labor some compensation, in money or relaxation, or indulgence; never withhold the merited praise or reward. Accustom them never to expect another to do for them that which they can as well do for themselves, but to rely upon their own strength, and to trust their own energies.—Whatever may be their prospects in life, teach them to depend on their own resources. Help them to cultivate an affectionate, accommodating disposition, moderation in their expectations, and moderation in their pleasures. Teach them to reverence God and to love work—"neither to despise labor, nor husbandry, which the Most High has appointed." "Teach them to bear the yoke in their youth, and to do with all diligence whatever their hands find to do;" so shall you deserve their assistance in the management of your house and your farms; so shall you secure for them that competence and happiness of which the mischances of this world cannot deprive them. And when you shall have performed all life's duties and enjoyed all life's plasures, when your earthly tabernacle shall fall into ruins, when your wearied frames shall find quiet repose beneath the soil you have faithfully cultivated, and when your spirits, like shocks of corn fully ripe, shall be gathered into store houses not made with hands, eternal in the heavens—your grateful children shall arise and bless your memory; they shall be living monuments which shall bear record that you laid for them, in early habits of patient, cheerful, and contented industry, the foundation for a manly, virtuous, and honorable independence.

From the Cultivator.

NEW-YORK STATE AGRICULTURE SOCIETY.

At a meeting of the State Agricultural Society, held at the Capitol in the city of Albany, February 11, 1836—

JESSE BUEL, President.

The report of JOHN P. BEEKMAN, Corresponding Secretary, was read and accepted.

The report of CALEB N. BEMENT, Treasurer, was read and accepted.

On motion of Mr. Allen,

Resolved, That a committee of seven be appointed by the President, to nominate suitable persons as officers of the society for the ensuing year.

Whereupon the President appointed the following persons to be said committee:—Messrs. Allen, Beekman, Duane, J. J. Viele, Cunningham, Baldwin and Ellsworth.

The annual address to the society was then delivered by the Hon. JOHN B. YATES.

The nominating committee having reported, the society proceeded to the election of officers for the ensuing year, whereupon the following persons were duly elected:—

ARCHIBALD M'INTYRE, President,
ANTHONY VAN BERGEN, first Vice-Pres't,
ZEBA A. LELAND, second do.
JOHN P. BEEKMAN, third do.
PHILIP VIELE, fourth do.
JESSE BUEL, Corresponding Secretary,
JOHN KEYES PAIGE, Recording Secretary,
CALEB N. BEMENT, Treasurer.

Executive Committee.

ALEXANDE WALSH,	JOAB CENTER,
JOHN TOWNSEND,	JOHN B. DUANE,
ERASTUS CORNING,	JOHN B. YATES,
SAMUEL CHEEVER,	JOHN H. STEEL,

OBADIAH R. VAN BENTHUYSEN.

The proceedings and memorial of the New-York State Agricultural Convention having been read to the society—thereupon,

On motion of Dr. Beekman,

Resolved, That this society approve the proceedings of the late Agricultural Convention assembled in this city, and respectfully pray the Legislature to grant their petition for an agricultural school.

On motion of Mr. Duane,

Resolved, That the thanks of this society be tendered to the Hon. JOHN B. YATES, for the able and eloquent address delivered by him, before the society, and that a copy be requested for publication.

On motion of Mr. Leland,

Resolved, That the thanks of this society be tendered to the late President thereof, for the able and satisfactory manner in which he has presided over the same, and for the benefit he has rendered the cause of agriculture in general.

The society then adjourned.

ADDRESS OF JOHN B. YATES, ESQ.

In presenting our annual address, an opinion may be entertained by some, that it should be confined to subjects connected with the immediate objects avowed on the formation of the society: improvement in agriculture only.

This opinion, although evidently too limited for the proper purposes of such an association, and tending to restrain that extensive usefulness which its consultations and active operations might otherwise produce, has, notwithstanding, been supported by many respectable citizens. There appears among us a morbid apprehension of political combinations. Dare we acknowledge, that we dread any more extended presentation of views to the farmer, than such as are properly connected with the mere mechanical organization of his farm, and the construction of the implements adapted to its most profitable cultivation? Such an avowal would not readily be made by any man professing to advocate our political institutions; and yet the opinion can have no other foundation.

The Pacha of Egypt observes the immense use of cotton, in the costume and other comforts of all the nations of the world. His country is well adapted to the growth of the raw material. He regards only the acquisition of wealth and power.—His sagacity enables him distinctly to perceive the means of acquiring both. His subjects (from causes which the limits of this address will not permit me to examine, although the examination would be connected with its object,) submit with implicit obedience to his mandate. He drives them with the cattle of his fields to the cotton plantation. The animal machine is strained to its strength. Improvements in the application of its power, from other countries, are introduced for the hope of the greatest pecuniary advantage, and the maximum product that can thus be procured, passes into the hands of the *merchant prince*, to be *vended* for the support of an army of other machines necessary to sustain his conquests and despotic misrule.

Our efforts in the performance of duty, as citizens and philanthropists, are too often like his, (although resulting from other evident motives, but, without great caution, tending to the same end,) absorbingly directed to increase the wealth and resources of the country, as the most important object patriotism can promote. But I would ask the enlightened patriot, are there not others of far greater importance, that should engage primary attention, to accomplish and secure which, the wealth and resources of the country are alone valuable?

In the organization of society, various engagements and permanent pursuits divide the people into almost as many distinct classes as there are distinct regular occupations. This is a necessary consequence of the mutual dependence of man, in all the relations of life, through the whole extent of ascending and improving civilization, until he arrives at the nearest approach to perfection in the power of human wisdom: the sincere devotion of a creature, with heartfelt acknowledgment of dependence on the great First Cause—courteousness, kindness, charity in judgment towards his fellow-man—the cultivation of the physical energy of the human frame, and all the intellectual qualities of the mind, united with a desire and effort to diffuse the participation of these enjoyments to as great an extent as the best organization of society will permit.

Another consequence, however, growing in part out of the present formation of political communities, and particularly exhibited in countries where the least surrender of personal liberty for the safety of government has been required, is, that the pursuit enabling its followers to assume the most elevated position, will always be deemed most desirable. If the path to that position be open for all, and the temple of Fame, with its fascinating allurements in full view, although seen only in the distant vista, the votaries, with all the variety of human passions, urging their way to its idol altar, will always be incalculably great. Ignorant and intolerant fanaticism, with its dagger, its torch, and its rack, hallucinating enthusiasm, wily hypocrisy, boastful and egotic arrogance, resting for aid and support upon every mean that can be enlisted under their respective banners, are all pressing each other on the way, hateful and hating in their contests.

From the gloomy outlines of such a picture there is some relief. Genuine philanthropy, seeking not its own exclusively, but universal good, moves kindly watchful, modest, and, though retiring, active in her sphere; slow, yet firm and steadfast, she collects around her an interesting group; its members mingle in all occupations, receiving almost universal respect; the uniform tendency of their conduct, and its evident effect upon the preservation of order in society, by soothing and quieting the discordant elements of which it is composed, frequently commands an involuntary reverential deference. The happy tendency of their efforts induces kindness, and in proportion as they avoid conflicting with the personal interest of others, is their influence extended and beneficially exercised. The high estimation, however, in which the remnant of moral sense, retaining its hold upon the conscience, constrains even the bad to regard him whose life appears devoted to acts of beneficence and philanthropy, throws among that class many whose motives are impure, who seek the association and the character as a mean only to accomplish other ends. Thus I have endeavored to present a brief outline of the moral constitution of every community, under every government, in every form of human association.

The question is then presented to all of us, who have properly considered our duty, and are truly desirous to promote both our own and the happiness of others, what course of conduct will most extensively diffuse and equalise the benefits of society, and promises most permanently to preserve and perpetuate its order?

As a society we should see how the object of *our* particular attention is connected with the pursuits and enjoyments of man; what species of improvement will best promote his happiness, and how far we are associated in interest with other engagements, with the sciences, and with every species of intellectual effort.

The last century has presented an entire new era in the civil history of the human race. The important, extensive, and varied improvement in the sciences, directly applicable to the physical employment of mankind, has wrought a great change in the structure of society, and the relative position of its numerous pursuits. To take up any one of these and attempt to present its progress, within even that limit, cannot now be done. Nothing more will be attempted than a mere notice of the fact; a brief reference to the causes, and the expression of a desire that more general attention may be roused, to aid in the accomplishment of the particular object we have in view, which we think deeply interwoven with the safety and prosperity of all classes, peculiarly adapted to the present time, and highly important to our country and government—the thorough education of the agriculturists and the laborer of every description.

I feel myself required, previous to such notice, to trespass on your time, with a brief and very superficial review of historical events connected with the general diffusion of instruction in society, and the division of its classes. Although in some respects there must always be a resemblance, yet prominent causes, some of which will be named, have so materially affected the civilised world as to change, in a great degree, the duties and obligations of civil life.

The relations of private life—the obligations of love to our neighbor, of administering to his physical wants, of comfort under affliction, and all the particular calls of charitable feeling, are never-varying duties, and alike in all ages and countries. The public relations, however, are entirely different: the performance of a duty in one country, would justly be deemed a crime in another.

The wonted order and government of society should never be suddenly or unnecessarily changed: every great convulsion impairs its moral aspect—real improvement is gradual, the result of due preparation. It is indeed admitted, and true, that many beneficial changes have required violent and sometimes sanguinary efforts; but these have terminated beneficially, only when founded on the requisite preparation, and the necessity for violence has arisen solely from the power of the combination interested in preventing such change.

In the revolutions, and the attempts at revolution, within the last sixty years, an instructive and elucidating comparison might readily be given.

The result of the American revolution, compared with the attempts in most other countries, unprepared for them, and conducted with merciless ferocity and carnage, ending in nothing but desolation and a change of masters, would, on examination, prove my declaration.

It is not the duty or province of philanthropy and patriotism to desire a violent and sanguinary change in any government, without a popular intellectual preparation for it.

Happily for us, we can deliberately take any required retrospect of events, and act upon such instruction, as their history presents, without the apprehension of injury, either to ourselves personally, or the public institutions of our country.

It is readily acknowledged, that in the imperfection of human character, the perversion of the principles of our institutions, and the prostration of the rights of individuals by lawless and unregulated violence, has sometimes occurred even here: this affords evidence that, although much has been done for the enjoyment of equal rights and full protection, more is still required.

The necessity of preserving the order of the community by fixed rules, must be understood and acknowledged by all. The danger of correcting evils by bursts of public feeling, breaking out into personal violence, must be made apparent.

These unhappy events we will have occasion to notice hereafter, and exhibit our views of the appropriate and only remedy—unless, indeed, the incorrigible depravity

of man renders this tremendous evil utterly remediless. If such an opinion be deemed probable, or even plausible, and we dare to cast our view to the future, a dark and boding cloud must be presented to the gloomy imagination, in which the disruption of society will be at first indistinctly seen, after which it will appear lighted by the lurid and blasting blaze of maddened and maddening human passions: the scene closing with the exhibition of anarchy, carnage, and desolation, terminating in the darkness of military despotism. If we rest upon historic comparison only, and past experience affords the sole foundation for hope, then indeed we are lost. I think, however, we may show a course of measures, imperatively required of us by every consideration of duty, which alone can revive and sustain a hope of protection from this impending danger.

But to proceed with the promised brief historical survey, which may indeed sound to the fastidious and critical hearer too familiar for any required instruction in the way we propose to use it; and to the mere political economist, who regards nothing important beyond the investigation of how the animal may be most conveniently supported, it may appear wholly superfluous: yet I deem it necessary, as the connecting link by which the course of argument can be better understood. If, in the end, the most distant probability shall be presented that the conclusion at which I arrive may be correct, we then confidently throw ourselves upon the whole community—the farmer, the mechanic, the merchant, the upright lawyer, the benevolent physician, the devout Christian minister, the philanthropist of every denomination, we invite, we urge, to investigate and decide whether the cause is worthy of their aid.

Since the commencement of the Christian era, the entire constitution of society has been changed; a gradual and thorough approximation of its various classes has been produced within the last two centuries never before known in large communities; great and valuable improvements have placed the pursuits of life in new relations; they are not now what they were.

The fundamental principles of the Christian religion, resting for their support upon the strictest morality, as well as creed, are also democratic in their tendency; while the private rights of individuals, according to the established constitutions of the society in which those rights are held, have been guarded by the most plenary sanctions; and the kingdom of the *Son of Man* is declared not to be of this world, the disciples are cautioned against any thought of precedence. In various other parts of scripture, equality of right, with proper submission to the powers that be, are inculcated by the divine teacher as moral precepts.—The limited means then known and possessed for the diffusion of information, probably prevented the full effect of these principles on the organization of human society. Confined to oral instruction, and a restricted use of written precepts, with a community, the common mass of which must necessarily have been ignorant of letters, it cannot be surprising that, in the promulgation of Christianity, such portions only as were in accordance with the political views of rulers, should be most sedulously inculcated; its liberal principles stigmatized as errors, and the arm of civil power called in to restrain the propagation of sentiments, feared as dangerous to the existing authority.

The mythology of paganism, yielding to the greater power of more correct principles upon the mind, had yet sufficient influence, aided by the interest, wealth, and power of the rulers, to impair the purity of the new religion, to bewilder and mislead its most ardent votaries in the mazes of the machinery, introduced by its corrupted teachers.—The deleterious habits of a profligate age, left their impression upon the professed followers of the cross. The corruption of all classes, and the enfeebling effect of their degeneracy, rendered them an easy prey to the hordes by which Europe was overrun, and the whole of its former enervated inhabitants were swept off, or changed in character. Nothing of the ancient world withstood this irruption; but the principles of Christianity, preserved, sustained, and fostered by the devotion of its humble professors, and although impaired by its connection with government, and obscured by its inappropriate dress, yet remained strongly recommended by the purity of its doctrine.

The whole order of society changed—the iron age of feudal violence and misrule substituted for the greater misrule of enervating corruption and philosophic sensuality; a long night of literary darkness succeeded. Philanthropists struggling to revive learning and science, drew largely from the remnant of ancient treasures yet preserved.—The efforts were great, and success slow, until the discovery of the art of printing. Then indeed a new era in the history of mankind commenced; the germ of all the improvements of the present and future ages was then planted for infinite expansion. The few centuries since elapsed have witnessed, and present at this day, a more perfect revolution in the situation of the human race, both in science and the political equalization of man, than was produced from the creation to that time. The art of printing is universally acknowledged as the prominent cause of this change.

The diffusion of information brought into active use a greater variety of human intellect; and rapid improvement in all branches of science was the consequence: yet this improvement, guarded by the vigilance of power and clerical apprehension, was restricted, by almost universal consent, to particular and privileged classes only. Thus the entire course of education has been so regulated as to require an abandonment of all active physical employment, except for recreation and exercise, founded on what has been erroneously deemed an axiom, "that scientific pursuits and useful labor are incompatible." The weapons of satire and ridicule have been unsparingly directed against all attempts to break in upon the exclusiveness of the circle to which these advantages were confined. In the order of nature, the intellectual gifts of Providence have been diffused without regard to artificial distinctions, and frequent lashings from the pungent pens of highly gifted plebians, ultimately changed the relation of parties. The liberal and benevolent wealthy became the patrons of genius; ambition followed and used the talent it respected and feared, for its own purposes. Although this venal relation was unfavorable to the free use of mental powers, yet intellectual proximity and more frequently acknowledged superiority broke down the barrier, and diminshed the distance between the lord and serf, the master and the slave.—Reserved however for the few who exhibited early indications of superior minds, and who were happily so placed as to attract favorable attention, the rudiments of learning were yet, as of right, confined to men of leisure, or those who devoted their whole time to them.

If the flashings of genius, or the steady blaze of intellectual light were so vivid as to be discerned along the path of the peasant by any liberal patron of learning, the former manual occupation must be abandoned, as too grovelling for the literary prodigy. Fostered by the hope of distinction and natural feeling, this opinion received additional support and strength from the individuals favored by it. All the schools of the civilized world have been founded on the supposition, that the boundaries of instruction in learning and science must be governed by the intended occupation, unless a decided character of mind, or fixed predilection should require a change. That active physical employment, or laborious muscular exertion might, by improving bodily health, also invigorate mental energy, has until lately been considered a paradox, suited only to the speculative theorist. Since the indefinite multiplication of printing presses, the cheapness, variety, and consequent unlimited diffusion of books and publications of all sorts, in every department of learning, many of which have been produced by men engaged in laborious occupations, the apparent paradox has been proved. The playfulness of the mind may be chastened by the dull pursuits of active life; works of fancy may not flow so readily from the shop of the mechanic, or the home of the ploughman, but all useful reflection would be aided by active engagement, and mankind more benefited by observations, the result of experience, connected with literary information and a practical knowledge of the world. In every country the agricultural class, the condition and employment of which *we* have associated to improve, sustains the very foundation, and is interwoven with all the interests of society; yet, owing to causes peculiar to itself and difficult to overcome, its improvement has been retarded more than any other, and its individual and even aggregate influence in society and government less than it should be, if properly prepared to exert such influence. It employs a great majority of the population, and yet in the prosecution of measures requiring combination of individuals, it is incomparably weak.

Agricultural employment disperses its followers over a large surface; meetings for consultation, and mutual improvement by familiar interchange of thought, are in-

convenient, and if not guarded by the strictest rules of order, often tend to unhappy results in the habits of a community. It is therefore difficult to produce that combination of effort in favor of the requisite measures for its advancement and success. Yet all obstacles should be overcome. The improvement of husbandry is important to the resources of a country: all nations possessing regular organized governments have highly regarded and endeavored to sustain it: most of them with misdirected efforts, have thrown their whole attention to the product, without any thought of the further improvement or benefit of the agent, except to protect him as a part of the machinery suited to promote national wealth and pride. But *we* should think it more necessary that the mind and character of the husbandman be elevated to a standard commensurate to his station in society. The farmer and mechanic themselves have too long deemed and advocated an education limited by the immediate necessities of the occupation, as alone necessary; and with regard to the farmer particularly, that opinion has been restricted far within the wants of his engagement. Instruction in all the natural sciences is important to the agriculturist, and as a citizen it should be limited only by his capacity to receive it.

I have before spoken of the jealousy with which some minds regard the introduction of political topics in any assemblies, except those convened for such specific purpose. That the good order and harmony of a society may be promoted by their exclusion, I readily admit; but I aver that a full and free interchange of opinion at all times, a freedom of thought and expression, and moderately conflicting discussion, are highly beneficial. There can be no true interest of the community opposed to them, but much useful information may be thus elicited. In the intercourse between the farmers, no topic on which conversation can be held with moderation should be avoided; all are connected with either our comfort or success in some way: more especially, however, should we regard any attempt to restrain the progress of information to particular classes, as treasonable to the very existence of republican institutions. All opportunities should be seized, all means used to diffuse instruction in every branch of science, and in every department of learning: we cannot hope for continuance unless this be done.

The resort to history and the experience of past ages, for the purpose of elucidation and comparison, is, as I have endeavored to show, difficult and fallacious. The state of the whole world is materially variant from that of any former time preceding the last century. With the progress and change of society within that period we are familiar: even the last fifty years have presented almost an entire revolution in the industry of society, and the relative influence of its various classes and pursuits. The progress of science with the diffusion of education has extended occupation into new channels. Articles of luxury and convenience, not known to our ancestors, have come into familiar use, and are now necessaries of life from habit. The easy intercourse produced by recent discoveries and improvements in mechanics, has approximated the most distant nations; even the unvarying eastern nations of the old world, whence we have the first record of existence and civilization, and which exhibit to this day a wonderful similarity to the recorded accounts of the manners and habits of the inhabitants in the most ancient times, are now threatened with innovation, and preparing to bend to the influence of the times and the spirit of change. Alterations in the general relative conditions of the human race have been produced every where: we must look forward to further advancement. There will probably be no retrograde, unless as in the first ages of the Christian era and previous to that time, the progress of venality and luxury, should have prostrated both the moral and physical energy of civilized man, and the general disruption of society follow in the train of destroying hordes. Such effects cannot however now be produced in the same way. The "officina gentium," the northern hive, whence the destroyers of the ancient nations broke, has been invaded, and will throughout its whole extent submit to the universal spirit of improvement. The hall of science has been reared, and every effort directed, even with despotic energy, in the region of the Goth and the Vandal, to improve the intellectual power of man. The sole business of life is no longer the cultivation of fearlessness of death, in prosecuting the most highly esteemed occupation of that age; spreading ruin and desolation through the land. The descendant of the ancient Scandinavian warrior is not now what his ancestor was. The votary of Odin and Thor, revelling in blood, exultingly fighting and dying in confident expectatien of the joys of Valhalla, is gone, and his place is supplied by his descendant, cultivating with equal ardor all the arts of peace. With all the disadvantages founded on principles which we have always thought, and been taught to think, opposed to the diffusion of information, the enlightened policy of the Prussian government, has introduced into that country, a general system of instruction, calculated to improve every class in that community. The children of all, even the poorest peasant in the kingdom, receive more full and thorough instruction than is given in most of the higher schools in other countries, and more particularly in our own country. The government of Bavaria is now following its example, forming and establishing similar institutions. Hitherto we have regarded kings and nobles as deeply interested in restraining the diffusion of intellectual instruction among their subjects. Formerly, on the continent of Europe, part of the kingdom of Great Britain, the small district of country comprising the united provinces of the Netherlands, a few of the cantons of Switzerland, and some cities enjoying immunities and privileges by sufferance from their more powerful neighbors, in consequence of their commercial enterprise and usefulness, have been regarded as the only people desirous to cultivate and diffuse general literary instruction. The prevalence and support of this feeling has always been attributed to the enjoyment of more liberal political institutions, and among the inhabitants of the Alps, also, to the comparative security of their mountain residence, and their equality in wealth and station.

I might here profitably digress, and trace this beneficial effect to a further probable cause; for our purpose such examination is not now necessary, nor have we time to trace cause and effect. The philosophy of history cannot now be examined. It is sufficient to say, that the dawn of another day is breaking upon *all* the nations: its light has penetrated into all the cabinets of princes; it has warmed the breast of the philanthropist, and is burning with its concentrated rays the constricting prejudices of ancient times. The voice of the people is now regarded every where. Public opinion in some shape governs all the world; even the despot, though supported by armed legions, cannot wholly disregard it. He perceives the importance of imparting information and wisdom to an influence no longer to be suppressed, and judiciously uses his power to instruct it. If this necessity is seen and acknowledged even there, how much more requisite is it for us to extend and enlarge our efforts. The institutions of *our* country, and their preservation rest upon this foundation only. The fundamental principle of our government is equality of political rights. An equal participation in the rights and privileges of government; an equal liability to the penal sanctions of society for violating its order; and an equal voice in adopting rules required for the preservation of that order, and the selection of agents to enforce them, are considered necessary accompaniments of American freedom. These have been extended, by the constitutions of most of the States, to all the male citizens who shall have arrived at the age fitting them for the exercise of those rights, and who are not under the acknowledged and legal government of another. We have, however, unhappily adopted, and permitted ourselves to be fettered by the maxims and thoughts of an age possessing no advantage equal to ours for the introduction of diffusive plans of instruction. In our academies and colleges we have copied the old European system. The result is such as might have been anticipated. No permanent distinctions in society existing here, all classes mingling with perfect equality, except such as the adventitious circumstances of wealth may produce, in a country where the means of living may be easily procured, in which what are termed professional pursuits—that is, the study and practice of law and physic, and the clerical profession, are almost the only engagements deemed compatible with the first standing in society, it is not at all surprising that preparation for them should be desirable to all young men.

The first of these professions more particularly requiring a knowledge of the constitution and laws of the country, and an intimate acquaintance with almost all the machinery of its government; also a sedulous attention to the principles of its commercial and social relations being necessary, to an advantageous and successful pursuit

of that profession; the prominent men in it have been generally better qualified to fill the public stations of life than others; and from the nature and publicity of their engagements, also attract more attention. The consequence has been, that the young have not been taught properly to estimate the useful pursuits of life, but rather considered the necessity of confinement to them as a misfortune; that the profession of the law has been viewed as more particularly fitting for engagement in public duties and the gratification of ambition; that the other professions have been followed with some anxiety, because they have been held in an equally respectable estimation as private pursuits; that in the business and associations of life, the commercial class has ranked next, or equally with the profession, and the laboring classes of all descriptions have been last.

I do not wish to draw invidious distinctions, but to present a scale of gradation required by truth, for a more easy perception of the probable consequences of such a state of society if not corrected. The democratic institutions of the country, and their preservation require every judicious effort to destroy a preference of pursuit arising from such causes. As a means of doing this, I do not advocate measures that shall impair the high regard in which these professions are now held; but am desirous that we shall adopt a course of instruction, which may tend to raise the other pursuits to a higher standard of moral and intellectual improvement, thus forming a general state of society, in which all will be better fitted to exercise the requisite judgment in the performance of all the duties of citizens of a democratic representative republic.

Unless this can be done, we may predict a rapid progress to the complete overthrow of our democratic institutions, in the ratio of increase of an ignorant and tumultuous population, as certainly as that effect must follow cause. I advert with painful sensations to recent events, as abundant proof already furnished in our country of the truth of this assertion, and sufficient ground for serious apprehension. If the moral condition of any community be such, that the laws imposing penal sanctions upon the commission of particular offences cannot be enforced, and from whatsoever cause it may arise, still the fact must be acknowledged, that the influence of the perpetrators of crimes, or the prevailing public opinions and feelings, will shield them from punishments; one of two results must follow: either that the laws were unwisely enacted, or the public moral sense is entirely degraded. In the cases to which I have in general terms alluded, the latter was in the aggregate true, at least in its moral aspect, and while I am free to acknowledge that a state of things may exist, in which a violent and sanguinary act may be palliated, by many peculiar circumstances, yet the necessity for repeated successive acts of so lamentable a description, gives the evidence of a state of society in some parts of our country, that I could not heretofore believe, existed anywhere, within the boundary of the United States. But it is true, portions of our country have been agitated by convulsive and irregular efforts to exterminate the destroyers of public morals, charged with having formed associations for indulgence in the most gross sensuality and profligacy, and seducing the young and unwary, so formidable in their influence as to bid open defiance to ordinary legal restraints, and so extensive in their ruinous effects, as to threaten the most alarming consequences. This being the acknowledged fact, a moment's attention to the cause in connection with our subject may be profitable. The questions occur: What was the state of this society? How was it originally formed? What were its pursuits? What was and is now the condition of its laboring population? In what estimation is industry, and attention to useful employment held? And what provision exists in it for the diffusion of education? These are important inquiries, but without attempting to occupy your attention or exhausting my strength by a particular examination and answer to each, it will be sufficient to say: The first is answered by the outrageous violation of its order, and the necessity for such a tremendous remedy. The second by the known fertility of the soil, and the enterprise of the first settlers. The third is more difficult: they were and probably are now as irregular and reckless as their morals. The answers to the last three questions comprise the whole of their difficulties; they embrace the origin of all their troubles, and it is to be feared that no safe and permanent remedy can ever be found while the cause remains. Labor is disgraceful, the slave and the menial only perform it. The establishment and progress of diffusive, or even restricted education, has hitherto received little attention, and no hope can be entertained that the laborers will ever be permitted to participate in it. But I must thus pass this local reference on the present occasion, and return to our own region, where cause and effect can be more distinctly seen, and I think hope of success more strongly indulged by encouraging exertion and fostering perseverance. What is now our state? Public opinion guards with close assiduity against every effort to produce permanent family distinction; the very ground work and strength of every oligarchy—on this alone can their superstructure rest. When this foundation is removed, permanent political distinctions must vanish. Our policy has prostrated the fabric and razed the foundation. The laws of primogeniture and entail having been abolished, the accumulations of enterprise and the gatherings and hoardings of avarice, will be dissipated by prodigality, unlimited division among descendants and connections, or generously expended in acts of beneficence.

The pride of acquiring and perpetuating distinction to those most nearly allied, is so implanted in man and associated with his strongest personal feelings, that it always will exist; and constituted as we are, is perhaps necessary to the well being of society, if not to its very existence. It is important, however, that the most innocent and useful manner of doing it should be strongly presented and inculcated. The hope of effecting it by transferring wealth, and with it power, is impaired at least, by what we have deemed the true policy of government. Every requisite measure has been adopted to sap the foundation by which the distinct orders of society might be permanently sustained. The channels for enterprise are still open. The means to accumulate wealth have been rather increased than diminished by the political change; and improvements in the facility of intercourse throughout the world, afford additonal inducements to adopt those means. Unless intellectual improvement and moral energy can be imparted to the more stable population of the country, the result appears so inevitable, as to be truly alarming.

The desire to accumulate wealth still existing, but the anxiety to retain and perpetuate it decreased by the destruction of all hope of success, it follows, that in most instances, the wealth accumulated will be expended for the immediate gratification of its possessor, without much thought as to the ultimate tendency of such expenditure. Is it unreasonable to believe, indeed have we not demonstrative evidence of its truth, that a competition in extravagant display, and with such prodigality, its invariable and more deleterious concomitants, venality and profligacy, will become generally prevalent? The only hope of checking in any degree the injurious effect of such a state of things, is presented by adopting an enlarged plan of diffusive instruction. The effect of such diffusion will inevitably be to enlarge the sphere of competition in all the operations of life; to diminish the relative importance of public station, and extend the ability to judge of the usefulness and integrity of public agents.

The influence of mere political combinations will be less felt. Now, indeed, they are viewed, by many upright politicians, as the proper and useful means to accomplish good ends; but in the extreme of party discipline, honest individual opinion is too frequently restrained to an injurious extent. Render as far as possible each person competent to examine and judge; and the influence of such combinations would be under a salutary restraint, and never become dangerous or even deleterious.

The equalization of intelligence, as nearly as the distinction in natural endowments will allow, must also restrain the evil effect of profligate example by the wealthy, impair their power of corruption, and stamp the perpetrators of what would otherwise be deemed venial offences, with the general contempt they merit. The benevolent may find ample opportunity to employ their means usefully and gratefully, without being required, in the indulgence of the kindliest and most honorable feelings, so to act, as to leave their minds in doubt whether the aid they may have been induced to give, shall not prove more injurious than beneficial.

A brief reference to two more branches of this important subject will close this address. They arise from the present division of labor in mechanics, the manner of its control and government, the use of machinery, the dependence of the population thus employed, the species of combination to which it is liable, and the danger to the

peace of community from it. It is not indeed possible, in this way, to enter into a full examination of the evils, and guards required to afford a good hope of protection from those evils. In order to do this instructively, a labor of far greater magnitude is necessary. But your attention should be called to it. A population, collected in manufacturig establishments of all sorts, is increasing and spreading through your land, for the education, restraint and protection of which, very little if any provision has yet been efficiently made.

It should not be thus neglected. The longer it is permitted to remain without due attention, the greater will be the difficulty of action upon it. So much has been named for future apprehension among us, that I dare not portray the lineaments and appalling features of this danger; but content myself with the suggestion, that protection from extreme foreign competition is *here* required, for far other and more cogent reasons than those founded on pecuniary advantages to the employers and employed: or even the great, the commanding and prostrating interests of foreign commerce.

If the manufacturer, in the application of his industry, is pressed to his utmost strength in order to sustain himself against both the animate and inanimate machinery from abroad, throwing the product of its labor among us unrestrained, by any thing save the power of competition, how can he be given time, for due instruction and information in the duties of a citizen of a republic? The train of thought immediately connected with this consideration will not now be pursued, but it has been named to show, that protection of domestic industry is congenial and necessary to the safety of our government; that it is not, as has been falsely charged, a mere building up of one branch of industry at the expense of another, but that the correctness, (nay, I will not, and cannot withhold the assertion,) the imperative necessity of the policy arises more from the nature of our institutions than any pecuniary considerations whatever.

The other subject requiring also immediate attention to the diffusion of instruction, arises from the great variety of new species, and new divisions of property created by factitious means. The possessors of which exercise and will continue to possess and exert an immense influence in all the operations of society.

The vast amount of corporate property engaged in the employment of industry, is already such, as to attract an anxious attention in view of its political consequences. It is daily, and perhaps may be properly increasing. Throughout our whole land the influence of this property is felt, and we are not yet prepared to say, or even form a probable conjecture what may be the consequence.

The discussion of this policy is not now designed. By the present excited spirit of enterprise, in addition to its former influence in commercial and pecuniary matters, it threatens to assume an entire control over a large branch of the industry of the country engaged in transportation and forwarding.

We must look to our citizens employed by these bodies. Their welfare and the welfare of the whole country requires this attention.

The species of property which has of late been so abundantly created, increased and extended, while it has been and is yet productive of great good to the pecuniary interest and resources of the country, is also fraught with many dangers, against which the public should be properly guarded.

I must be pardoned for this closing notice. I am not among those who think the prosperity of the country consists, either exclusively, or even mainly, in the increase of its wealth, the magnitude of its cities, the splendor of its edifices, the sensual refinement and luxury of its inhabitants, the power of its fleets and armies, or even the extent of its commerce; but rests wholly on public virtue and intelligence. Nor can that virtue and intelligence be best sustained by a government with permanent and hereditary distinctions, and the encouragement of prodigal expenditure by the wealthy. Neither is the miserable and envious spirit of levelling agrarianism, that political and immoral profligacy which disregards the private rights of individuals, in pursuit of what may be considered a public good, suited to promote that virtue and intelligence. I close with a single remark, addressed to every member of this society: Do you wish to raise the importance of your farmer, mechanic and laboror? Do you wish to destroy personal influence arising from wealth, and not character and measures? Do you wish quietly, without injustice and without violence, to equalize property as conducive to the greater safety of the republic? And in fine, do you wish to foster any hope to preserve your republic? Educate thoroughly your whole community.

From the Cultivator.

FARM BUILDINGS AND THE CONSUMPTION OF FODDER.

Among all the deficiencies which exist in the perfect management of our farms, I am sensible that none are more prominent than that of proper buildings. Not that I would advocate expensive or large buildings, but those of ample size and convenience for all the *legitimate* uses of the farm, and of such shape and construction as shall conform to strictly economical calculations.

For instance, I would not build an expensive *stone* barn on my farm, when one of wood, equally good for all ordinary purposes, can be erected for a sum not greater than two or three years interest on the cost of the stone one, because a well-underpinned wooden building, where extraordinary warmth and tightness are not required, wil endure at least fifty years, and need shingling no oftener than a stone building. So of stables, sheds, outhouses, &c. But not so of dwellings.

The desire of warmth with which human beings are sheltered, forms a prominent part of the comfort and usefulness of life, and therefore, all dwellings should be built of the best materials, and constructed in the warmest manner, compatible with the ability of the owner. I have much doubt whether the occupant of an open, badly built house, does not pay three times the annual interest of its cost, in the extra fuel and labor consumed to keep its inmates comfortable; and among no class of people have I found so great an inattention to these very important matters, as among our moderate farmers; and when the annual losses by disease, exposure, extra labor of obtaining and preparing fuel, and of time in various ways, all arising from a cold and comfortless house, are taken into consideration, I am thoroughly satisfied that a great portion of the profits of a whole family's industry, are annually lost by the wretched houses they occupy.

The great fault committed by most farmers, in their buildings, is in the great size of their dwellings. Many who build, calculate to do it *within themselves*; or they get out their own timber, draw their own saw logs to the mill, if there be one near them; quarry and haul their own stone, &c. &c., and so manage as to hire but a portion of their mechanic work, turning in their own labor and that of their sons or hired men, if they have them, to assist in its erection. This is as it should be; but the difficulty is, that they often plan too largely, calculating on finishing off only a small portion of the house *at present*, and to do off the rest at some future opportunity of more leisure and convenience. But these future opportunities of leisure and convenience rarely occur, and so much more capital is often expended in the inclosing of a large dwelling than had been anticipated, or is at all useful to the family, that it remains forever unfinished, and a cold comfortless receptacle for them, when a snug, warm and delightful dwelling could be entirely finished, with every requisite comfort for a numerous family, at the cost of the unfinished shell! How painfully true is this fact in numberless instances!

This fatal error oftentimes extends itself to the outer buildings of the farm, alike prejudicial to all descriptions of stock kept upon it, and of most serious account in the year's results of its products. Fortunately, there is so little intricacy or science needed in the construction of farm buildings, that even the least skillul may erect comfortable and necessary shelters for all his domestic animals, and materials abound so plentifully in our country, that they are every where to be found. It is better, even, in my estimation, for a farmer to sell a small portion of his land, to accommodate the remainder with proper buildings, if he cannot do it otherwise, for he is actually richer in the end to do so; as for the most of them, the produce on an equal number of those acres would be annually wasted for the want of them, besides all the discomfort, misery, and suffering caused by exposure to the inclemency of the seasons. This may be unpleasant argument to those who are intent upon nothing but increasing the extent of their farms, regardless of the comforts or profits of their stock. Yet such, were they to pause in their acquisitions, and by the erection of necessary buildings on their farms, secure more effectually its products, would in a short time accumulate much more rapidly than before. I name these facts with

more emphasis, because I am well assured by my observations throughout the country, that the want of necessary and proper buildings is the greatest drawback our farmers experience in the profits of their labor.

Of what avail is it that I reap fifty bushels of wheat, or an hundred bushels of corn to the acre, and lose one third of it for want of shelter, or waste in feeding? Unless I can secure my crop, my profit in growing it is of small account. If I cut fifty tons of hay, and, by exposure in stacks to the weather, only forty of it can be eaten by the cattle, and one quarter part of that even is trampled under foot, I had better have had only thirty tons of good hay in my barn, and even then my stock would have consumed five tons less by being warmly housed for the winter. This is a view of the case which I think must strike every thinking mind, and will apply itself to every kind of domestic animal on the farm. To my own mind it has been most strikingly presented by a year's experience, and I am of opinion that the difference in the consumption of food for the domestic stock of a farm, taking in all the losses incident to the forage itself by want of housing, &c., is at least *thirty* per cent., compared with the most economical method of expending it; and in some cases even *forty* or *fifty!* I am aware that this calculation will strike the reader with surprise, and by many it will not be believed; but to such I only say, try it, and he will become satisfied of its truth.

In the spring of 1834, the management of a large tract of land coming under my charge, portions of which had for years been most miserably mangled by a horde of squatters, who had cut, haggled, and worked the land after their own fashion, although abundantly productive by nature, I found it in a most miserable condition, requiring immediate care and attention. Numerous wretched log cabins were scattered over it with bark roofs; an occasional shed for cattle, with a parcel of old rails thrown over the top, and on them the remains of an old stack bottom, where their hay, stalks, or straw, had been stored, were all the buildings or conveniences to be found on the premises. Three or four of these little squads or settlements had been made on different parts of the territory, and each one comprised within its compass from one to two hundred acres of this partially cleared, girdled and dilapidated improvement. Having got rid of the squatters, and selected one of these settlements most conveniently located for immediate operations, and taken the best cabin, well situated and convenient for a dwelling, I put into it a good family, fit to manage the place, built an addition to it also of logs, put on a good shingled roof, and with a hundred or two dollars expense, made a very comfortable affair of it. With sufficient help on the place, the fences were straigntened and put into line, the old bouks, (*bosks,*) brush fences, logs, &c. &c., cleared up and tolerable crops got in. Having come into the place about the middle of April, it was too late in the season to make rapid advances, but in the course of the summer perhaps 30 acres of oats, 5 or 6 of corn, and as many of potatoes, were cultivated, and yielded a tolerable crop. A dozen acres of wheat were also sown in the fall, and perhaps 70 or 80 acres of land worked into tolerable shape for another season. Yet we had no barns nor the means of building any during that year; one wretched log stable, which stood near the house, was all that we had for shelter to any of our animals, and with that we shifted to get along. Our hay, of which we had some 60 or 70 tons cut from a distant clearing, our oats, corn, folder, &c. &c., were all stacked out in the open air. Winter came upon us. With a few thousand feet of boards and the aid of crotches and poles, we made some sheds and mangers for our cattle, of which we had a large stock, composed of oxen and cows, and erected some racks in the yard to feed them in. By these means we got through the winter, after the fashion. Our cattle had enough to eat, and during the cold weather, looked tolerably well: but as the cold rain and snow storms of March and April came on, they grew poor in spite of all we could do. Food enough to keep in high condition double their number, if well housed, was given them, but all to little purpose. The storms wet the fodder in the stacks, the cattle trampled it into the mud under their feet, and with all the care given them, which was a great deal, I am fully satisfied that at least 25 per cent. of the food given them was entirely lost!

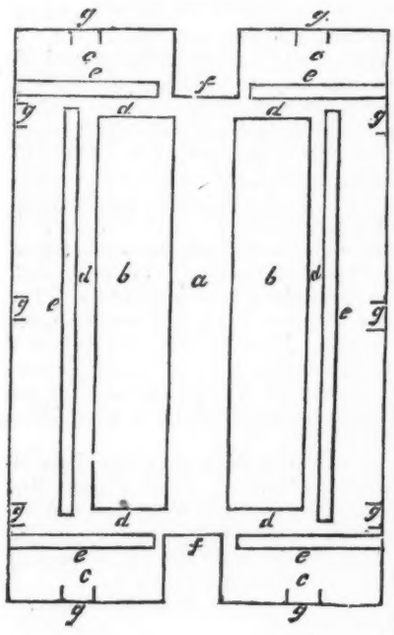
And yet this was better and more economical feeding than one half the stock of our country get on the average! It may be a bold and sweeping remark, but it is nevertheless a *true* one, and would every farmer make the experiments who thus practises, he would fully test its correctness. We had great labor to perform, and therefore submitted to the loss and inconvenience accruing to this mode of management. During the winter, we cleared up more of this *slashed* ground, inclosed it, drew off its wood and timber, and last spring had perhaps 200 acres of pasture, mowing and plough land ready for use. We were now ready to build a barn, and after the spring crops had been put in, proceeded to erect one proper for the uses of the farm. It was soon built, covered and inclosed, and by haying and harvest time was ready for use. It was placed on a central and convenient spot for the farm, which is a large one, and although this barn is 100 feet long, by 50 feet wide, and 18 feet posts, with leantos for stables on each side of it, with a floor 14 feet wide, lengthwise through the centre, more room will soon be required. It was a matter of much wonder and inquiry by my neighbors who saw the barn, of what possible use it could be, supposing it a most extravagant building, although, for the size, a very cheap one. Yet when we had cut and stored our hay, oats, and wheat, the barn was crammed full to the roof, on the floor and all. We housed every thing; all was put in, in perfect order and good condition. Ample room is there made to tie up every animal to be fed, and not a lock of hay or a spoonful of grain need be lost. The manure is all saved, and in a convenient situation to be carried out, and a degree of economy, comfort, and satisfaction experienced in expending the food to the stock, that amply compensates for all the extra expense. The hay and grain it contains is more than 150 tons, enabling us to feed out every bundle of straw and coarse fodder, which is in most cases altogether lost, or only used for manure: a plan of this barn is annexed.

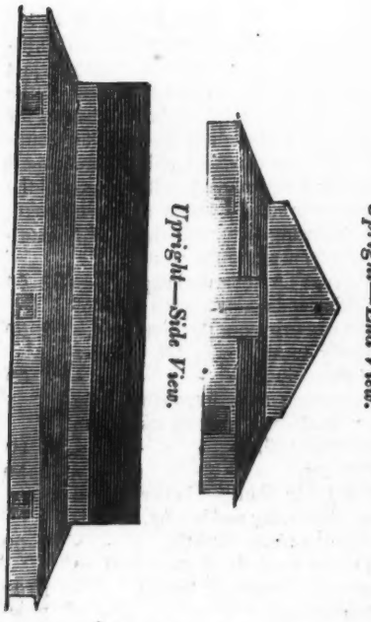
There are so many collateral subjects connected with the barn and other outbuildings of a farm, that it is hardly possible to give an essay on this subject, without discussing the different methods and economy of feeding stock, with the preparation of the food, preservation of manures, &c. &c. But as the *principle* of feeding is the same in all kinds of neat cattle and horses, it will apply to all cases. In the first place, I hold that there is no straw, corn, fodder or grass cut on a farm, with the exception, perhaps, of the straw of peas, beans and buckwheat, but what may be consumed as *food*; therefore all reasonable pains should be taken to secure them in good order, and have them well stored and sheltered for winter food. How many thousand tons of valuable wheat straw have I annually seen in our wheat counties thrown out ftom the threshing mills, and piled up year after year to rot and taint the atmosphere with its offensiveness, when it might all be made into the best of food for cattle, by being housed and chopped with trifling labor! It appears with many farmers to be a matter of no sort of consequence *who* feeds the stock, or *how* they are fed, provided they are only fed at all; not considering that there is equal economy in expending the food as in securing it. Look at the season of haying and harvest among our farmers. What preparation for toil and incessant labor, increase of help, high wages, &c. &c. Up by day-break in the morning, and at work, and no rest till dark. It is the extraordinary season of the farmer, when every thing is sacrificed, even the Sabbath, oftentimes, to toil, and no cessation till it is all over. But when the winter comes on, this invaluable food, collected at so much cost and toil, is expended with a heedlessness and prodigality unaccountable to any rational or thinking mind. This, indeed, may seem foreign from the subject of which I am treating, but it is too nearly allied to it to be lost or overlooked.

My own method of feeding is to cut *every* kind of straw, and even the coarse marsh or meadow hay, in the cutting box, and mix it with a light portion of shorts, bran or oat meal, just enough for the cattle and horses to eat it. In this way they consume every thing. Nothing is lost; for what they leave is taken from the mangers and mixed over again with the new mess. It is the exclusive business of one man to cut the food, clean the stables, and feed the cattle: and if he needs assistance, he has it. By this means he becomes acquainted with the appetite and health of each animal, a matter altogether important. If they be out of health, or need extra nursing or attention, he knows it, and provides for them. A change of food is occasionally given, and by this operation all is relished and eaten perfectly clean. We now feed about 40 yoke of oxen, 8 or 10 horses, a

dozen cows, some sheep and young stock, all in this manner, though not all in one building, without any waste at all. Every thing is saved. Every animal is tied up in its place excepting the sheep, and each has its own portion without fear or molestation. I well know that they consume less food per head by thirty per cent. than they did during the last winter, when they were fed nearly, if not quite equal to, the ordinary method practised throughout the country. Our oxen, I am satisfied perform more labor, the cows yield more milk, and all the animals consume less food by being thus housed and attended. But to the plan of the barn. It is here given.

Ground Plan.





Explanation.

a, barn floor, 14 feet wide.

b, *b*, bays for hay and grain, 18 feet wide and 92 feet long.

c, *c*, stables for cattle and horses, 13 feet wide in the clear.

d, *d*, passages to stables, 4 feet wide.

e, *e*, mangers for feeding, 2½ feet wide.

f, *f*, great doors, 14 feet wide.

g, *g*, stable doors, 5 feet wide, double.

Length of barn, 100 feet.
Width of do. 50 do.
Posts of do. 18 do.
Pitch of roof, 12½ feet.
Height of leanto posts, 7 feet.
Pitch of stable roof, 8 feet.
Length of side leantos, 100 feet.
do. end do. 38 do.

The barn is framed as if to stand alone, omitting the lower girt at the ends on each side of the large doors. The leantos are then framed on to the barn in the simplest manner—the passage being *round* the main body of the barn, excepting at the ends, where the passage is *in* the main barn, and the leantos there only 16 feet wide, and the manger is fitted up to the main barn. Only one passage is made to go into the short stables at the ends. Stalls are made 7½ feet wide and broad between, and each ox or cow is tied next to the partition side of the stall, which prevents their getting together, and saves much room. The doors are sufficiently wide to drive in a pair of oxen yoked, and large spikes are driven in the plates all round the stables to hang harness, yokes and chains upon.

The bottoms of the mangers are raised ten inches from the floor, and laid double. The sides of the stable are also battened with thin boards inside, which makes them perfectly tight and warm; windows with sliding shutters are made in the sides, to throw out the manure.

Girts run parallel with the main floor in the posts, across which are laid poles, nine feet above the floor, on which hay or grain can be piled up to the peak.

This barn will hold 200 tons of hay and 46 yoke of oxen, or 100 cows or horses. If only ordinary stock is kept, the *long* leantos need be only 18 feet wide, and the *short* ones 14 feet. Granaries can be partitioned off from the bays or stables, as may be convenient. If a threshing machine is used, a part of the stable can accommodate it. Its whole expense, finished complete, is about $1,500.

On this model, barns of any size may be built, and I am well satisfied that, according to the room required, it is altogether the *cheapest* in cost and simplest in construction of any plan I have seen. If a less proportion of stable room be needed, it may be omitted where convenient.

The passages around the ends of the bays and in front of the mangers, are for feeding the cattle, every thing being put in front of them. The passages are wide enough to carry hay, and when the bay is partially fed out, the hay may be thrown directly into the passages.

I would on no account store hay or other material over the cattle, under the stable roofs, although there is considerable room, as I am satisfied from experience, that there is none too much space left for ventilation.

The floors are lined with thin refuse boards, excepting a part of the stables, it being my wish that *nothing be lost.*

This barn is placed on level ground, having no side hill convenient on which to place it. I would prefer, if possible, a sloping piece of ground, and make an ample cellar beneath it, to receive the manure, preserve roots, &c. &c. It will add to the expenses of building, but greatly to the convenience and economy of the farm.

This, it is true, is on a larger scale than is needed for an ordinary farm; yet many farms require as much and a larger quantity of barn room. If every thing be saved and housed that can be profitably expended in the feeding of stock, much more shelter is required than is supposed. If the farm be small, the size of the barns should be graduated to its wants. This plan has been closely examined by many farmers of great experience, and pronounced to be the best they have seen. The utmost possible economy of room is made for packing the hay and grain, and the stables are mere leantos, made of light frame, attached to the sides and ends of the main building. If wood covering for either of the sides or roof of boards and shingles are not to be obtained, they may be made of thatch. The bodies of the building may even be laid up of logs and covered with slabs, so that they be well chinked and comfortable. It is true that there is some waste room over the cattle in the stables, but no more than is wanted for ventilation and to pass off the respired air, which is deleterious to their health. The letting in of fresh air in cold and stormy weather, through the sides of the building, gives them colds and disease, to which they are as liable as the human family. But even if only sheds are wanted, I am satisfied that they are better to be attached to the sides of the barn in the way these stables are, than in any other, being more convenient, and allowing the stock to be fed in them with greater economy. The stables attached to this barn being for the accommodation of working cattle mostly, are wider than need be for an ordinary stock, and may be made narrower. But amongst all other plans, I have found none which combine the requisites of cheapness, economy of feeding and storage, like this. It has, withal, an appearance of snugness and comfort about it that greatly embellishes the farm.

If sheds are wanted in addition, they can be attached to the stables and run off in either direction, and accommodated with racks and mangers, as may be required. But every domestic animal on the farm should be fed at the barn, with the exception of sheep, which require, if kept in large numbers, a different and separate course of management. The custom of stacking hay or grain in the fields is at best a bad one, and if resorted to, it should be removed to the main barn as soon as the cutting season is over, or there is room in the barn to receive it. Small moveable barns are frequently built to store it in, and from them fed to cattle during the winter: but this, in the best of weather, is accompanied with waste, particularly in the manure, which is valuable even on the best of soils. It is, besides, much less labor to carry the hay

either on sleds or wheels to the barn, and then feed it to the stock, than to go daily two or three times to fodder it out. So much has been said and written on the wasteful method of feeding at stacks, that at this time it is almost superfluous to mention it.

As to the other ordinary outbuildings to the farm, it is only material that they be conveniently and economically built. No farm house should, however, remain without a swill house, with a large cauldron set in brick, an ample wood house, wagon and tool house, corn-crib, &c., near by. As to the dwelling, it is a matter of fancy with many, and to those who have the ability, provided they make it comfortable and convenient, it matters little what is the shape, size or style of it. Still there is a model that I consider cheaper and more convenient than almost any other, and for those landholders and farmers who build for the accommodation of their tenants, I consider it a most excellent one to follow. I am about building one on a farm of my own for the manager to live in, sufficiently capacious to accommodate his own family and half a dozen hired men. Its whole expense will not exceed a thousand or twelve hundred dollars, and if oportunity offers, I may send you the plan in some future communication.

Most truly and respectfully yours,

L. F. Allen.

Buffalo, December 5, 1835.

Acclimation of Plants.—Much has been said, but very little done, on the subject of introducing and acclimating useful exotic plants; though it would seem that the success attending the few examples set by enterprising individuals, would be sufficient to awaken the most drowsy apathy on this important subject. The efforts of the patriotic Perrine alone, had they met the encouragement they merited, would have benefitted the nation by this time to the amount of millions.

We deem it our duty to lay before our readers every hint on the subject which comes in our way, and with that view subjoin the following interesting article from the Genesee Earmer:

THE SUGAR CANE.

"It is well known that among other plants, the sugar cane may be gradually introduced into a climate which was at one time uncongenial to it. The Otahite [Tahiti] has been introduced into Louisiana. What a gain it would be to our country if a variety could be procured which could be raised one degree further north than the Otahite [Tahiti!] The advantages from this single plant alone would a thousand times compensate for all the expenses of such an experiment. For the introduction into this country of the various fruits and vegetables which such a country as China must produce, might be attended with advantage almost incalculable."

As a confirmation of the correctness of these remarks, we refer to the *Morus multicaulis*, which has reached the U. States from different parts of the East where it had been acclimated. The first sort was introduced by the French from the Phillipine Islands, *within the tropics*, and it is always more or less injured by the winters, while the other sort which has grown from seeds procured in China has resisted the greatest degree of cold to which our climate is ever subject. These considerations ought to stimulate the liberal minded to greater exertion.

THE OLIVE.

In connection with this subject, we may state that the Olive flourishes in the Crimea on the north shore of the Black Sea, in the neignborhood of very rigorous winters. The following extracts are from (Bishop) Heber's travels: "Below Koriess, on the plains above the sea coast, are *some fine olive trees.*" Life, vol. 1, p. 258.—Again: "Perecop—We here with great regret quitted the Crimea.—It was really like being turned out of Paradise,—when we changed *olives* and cypresses, clear water and fresh milk, for the reeds, long grass, and the drainings of marshes," p. 262.

What follows will show the great degree of cold which the *Olive* must endure there in winter:

"All the countries bordering on the Euxine Sea are still subject to an annual severity of winter, of which the inhabitants of Britain can hardly form an idea. The whole sea of Asoph is annually frozen in November, and is seldom navigable earlier than April.—This *remarkable severity of climate* on the *northern* shores of the Euxine, may induce us to give a proportionate faith to what the ancients assure us of its *southern* and *eastern* shores." p. 532–3.

When shall that *variety* of the Olive be introduced into the United States?

From the Ohio Review.

CULTURE OF RUTA BAGA.

If you think the enclosed worthy a place in your columns, you are at liberty to insert it.

Having seen much published upon the subject of raising ruta baga, all of which has fell short of the crop I took last fall from a small piece of ground, I am induced to give, not only the amount, but the manner of cultivating. To give the amount alone of any particular crop, without the manner of cultivating, is no benefit to any one.

I had a piece of dry sandy land, facing the south, which I wished to prepare for a fruit garden, and make more rich and level than I could do by ploughing. I therefore covered the ground about an inch thick with manure, and with a spade dug and turned in the whole, to the full depth of the spade, taking care that each load was covered as soon as possible after spreading, to prevent loss by evaporation. This was done, or finished, the 5th of June. I then waited until I discovered indications of rain, which I think was on the tenth of the same month, when I immediately took a hand with me and commenced raking the ground with an iron rake. I next took a large rake made of three inch scantling, with five teeth, *fifteen* inches apart, and having a man to hold, drew it across the ground, the direction which I wished to have the rows run, making five marks. After that, we placed one outside tooth in one outside mark, making four marks, until the whole was completed. I then dropped the seed quite thick every row, except the last eight, where I skipped every other row, leaving them thirty inches apart, instead of fifteen. They came up in a very few days. I then took of gypsum one part, of ashes two parts, and having mixed the same, sprinkled about a quart per rod on each row.

In five or six days I thinned them out, so as to leave them from four to six inches apart. Ten days after I hoed them again lightly, and gave them another dressing as before, which was all the labor bestowed upon them, until they were pulled.

From five rods of the ground planted fifteen inches apart, I gathered 61 bushels, measured in a two bushel measure, weighing 58 pounds to the bushel, which would make 1,952 bushels to the acre, or 113,216 pounds, equal to 50 tons, 1,216 pounds. From the ground where the rows were 30 inches apart, the yield was at the rate of 1,434 bushels to the acre, the turnips larger, consequently not quite so heavy per bushel. One of the largest weighed 15 lbs. The above statement may appear incredible, still it is true. I was at first loth to believe it myself, and went and remeasured my measure, examined my figures, and found that all was correct, and "that facts are stubborn things."

In submitting this to the public, I am influenced less from a desire to boast, than from a sincere wish to have others communicate the result of their experience in agriculture, thereby benefitting the community at large. Respectfully yours,

Wm. Wetmore.

Stow, Jan. 22, 1836.

Knox, February 10, 1836.

Dear Sir,—Having determined to cultivate a piece of ground with potatoes last season, partly by way of experiment, in the manner recommended in the Cultivator, for hoed crops, I chose a half acre of land situated in the corner of an old pasture, a part of it too wet for ordinary cultivation, and the remainder produced but a scanty herbage. The following is a statement of the estimated expense and the result:

Expense for underdraining, -	$2 50
Carting and spreading ten loads of coarse manure from the barn yard,	2 50
Nicely turning over the sod, by once ploughing, - - - - - - -	1 00
Harrowing and furrowing, two and a half feet apart, so as not to disturb the sod, - - - - - - -	1 00
Planting, - - - - - - - -	1 50
Ploughing shallow between the rows, plaistering and hoeing, moulding up the plants slightly, - - -	1 50
Twenty bushels of good seed, at twenty-five cents per bushel, - -	5 00
Harvesting, - - - - - -	3 00
Total,	$18 00

The average yield was a bushel from

twelve hills, or two hundred and seventy-five bushels, at eighteen cents per bushel, - - - - - - - - - - $49 50

Deduct expense, leaves clear gain, 31 50 equal to the interest of nine hundred dollars per acre.

Yours respectfully,
A. Crary.

J. Buel, Esq.

From the Cultivator for March.

REMEDY FOR BOTS IN HORSES.

J. Buel, Esq.—Dear Sir,—In the last April number of the Cultivator, is a remedy for bots in horses; and my object in this communication is, to give publicity to the fact, that the life of one of my horses was preserved by the use of that remedy, after having tried every thing that could be thought of by an experienced farrier. I would recommend the use of that remedy to all in like cases.

Very respectfully yours,
Israel Foote.

Sherburne, Feb. 22, 1836.

The prescription is—Mix one pint of good vinegar with half a pint of good sifted ashes, in a bottle, and turn the dose down the horse's throat while effervescing. From one to three bottles will suffice, given at intervals of twenty or twenty-five minutes, if found necessary.

From the Genesee Farmer.

Sale of Durham Cattle.—We copy the annexed from the last Frankfort, Ky. Commonwealth:

Messrs. Brown & Hodges,—Much anxiety having been expressed to know the result of the sale made by me on the 5th inst. of the full blood Durham Cattle, belonging to the estate of *James Haggin*, deceased, I herewith give you the result for publication.

One cow, about 9 or 10 years old, to Robert Wm. Scott, for $250.

One cow, about the same age, to S. P. Wesiager, for $280.

One cow, 3 years old, raised by Gen. Slanders, one-fourth Long Horns, three-fourths Durham, to G. E. Blackburn, $300.

One heifer calf, 8 or 9 months old. to Benjamin Grays, $295.

One bull calf, 8 months old, to W. Rogers, $163.

One bull calf, 21 months old, to Joel Twyman, $233.

The sale of mixed blood also produced fair prices, some of which are also given.

One large red cow to Wm. Rogers, $98.

One large red cow, to Philip Swigert, $91.

A heifer, to Robert W. Scott, $180.

One cow, to R. G. Jackson, $100.

One cow, to do. $153.

The prices corresponded with the grade of the cattle.

The sales were made at public auction, at 4 months, for negotiable paper endorsed.

The best cow belonging to the estate had been sold a few days previously, at private sale, for $400.

H. Blanton.

Nov. 12, 1835.

From the Cultivator.

SHEEP HUSBANDRY—NO. III.

The Emigrant Merino.—There does not appear to be among those who write and converse on the Saxony and Merino sheep, a distinct and definite understanding of the subject. By most people they are regarded as distinct races of sheep; and designated by many imaginary distinctions.

To whatever region the Spanish Merino has emigrated, he is to be identified with the original, like the greyhound. Thence arises the inquiry, where has he been preserved in the greatest purity? held in the highest estimation and cultivated with the most care? in Saxony, France or America? And when we talk about *old fashioned Merino sheep*, it must at the same time be understood, that one variety of the parent stock is four times as valuable as others, and that this necessarily influences the emigrant, and determines his value. Then comes the consideration of individual peculiarity and excellence, which forms the basis of improvement, and the preservation of his purity.

The first emigration of the Spanish merino with which we have any acquaintance, was to Saxony; whose history has been partially narrated in the first number.

The second was to France, in both instances under circumstances of sovereign or state patronage. This second I shall furnish principally from a transcript of the writings of others.

"When France became a manufacturing, as well as an agricultural nation, it was perceived how great an injury she sustained by being dependent on foreigners for all the fine wool which she employed, and it was well understood how great would be the advantages which she would derive from the production of it within herself.

"This subject occupied the serious attention of Colbert, whom nothing escaped which might tend to the advantage and greatness of his country—he projected a change in the system which prevailed. Succeeding ministers attempted without effect to put his designs in execution.

"It was not until the year 1766, that Daniel Charles de Trudaine, an able minister, employed the surest means of succeeding, and thus freeing the kingdom from the tribute which it paid to procure fine wool. After his death, his place was supplied by his son, who followed the plan laid down by him. Daniel Charles de Trudaine had addressed himself, not to cultivators of land, whom narrow views and prejudices are too apt to deter from adopting whatever they have not seen practised by their forefathers, but to Daubenton, an able naturalist, who instantly perceived the possibility of what was proposed, and proved it by satisfactory experiments."

"It having been ascertained by a variety of experiments patronized by the administration, and conducted by enlightened agriculturists, that the Merino sheep might be acclimated in France without any change in their wool; application was made by Lewis sixteenth to the King of Spain for permission to export from thence a number of Merinos. This was not only granted, but orders were given by the Spanish monarch that they should be selected from the finest flocks in Spain. In the year 1786 four hundred rams and ewes arrived in France under the care of Spanish shepherds. Fortunately for France, the improvement in sheep, begun under Lewis the sixteenth, was continued through the revolution, in which almost every other useful institution was involved in ruin. A committee of agriculture was formed in the Convention, and under their protection the amelioration of the Merino flocks happily progressed. From this originated the celebrated Rambouilet flock. From this, the writer says a number of rams and ewes are annually sold, after the finest are picked out to keep up the original stock. And notwithstanding the annual sales from the national flocks, the price of rams is daily increasing."

So particular have the governments of Saxony and France been, to preserve these flocks from degenerating, and to effect every possible improvement, that they have at different times sent experienced shepherds into Spain, to select from their choice flocks superior individual rams, for which, in some instances, they have paid enormous prices, to preserve the necessary change without breeding in and in.

In such high consideration was this subject held by the successive administrations of the French government, that a commission was issued to the institute, to appoint a committee to prepare a treatise on sheep; which was executed, and distributed gratuitously, with that characteristic liberality of the great nation, which has done so much in science, and in arousing the dormant energies of the human mind, to a positive exaltation of character.

Mr. Gilbert, a member of the French national institute, in describing the Rambouilet flock, says, "but which certainly does not yield in any circumstance to the most beautiful in point of size, form and strength; or in fineness, length, softness, strength, and abundance of fleece. The manufacturers and dealers in wool, who came in numbers, to Rambouilet this year (1796) to purchase, unanimously agreed to this fact, at the very time that they were combining to keep down the price." He further states, that the average weight of the fleeces of the bucks, when washed and scoured, exclusive of tags and belly wool, was six lbs. In this country, for the market, we do not scour; only wash, and roll up the whole fleece. The amount of fleece is very much dependent on feed. He says, "the comparison I have made with the most scrupulous attention between this wool, and the highest priced, of that drawn from Spain, authorizes me to declare that of Rambouilet superior."

The Electoral flock of Saxony, and the Rambouilet flock of France, are of the same rank and degree—selected improved Merino. How is it then, when Saxony wool takes the precedence of Spanish wool in the market, that Rambouilet does not come in competition with Saxony? Spain and Saxony are pre-eminently fine wool growing regions; but neither of them extensively manufacturing; they grow for exportation. France, on the other hand, grows prime wool, which is consumed by her own unrivalled machinery.

In the third instance, he crossed the Atlantic for the new world, and landed on our shore. Here he was greeted with an enthusiasm bordering on distraction, and which can now hardly be realized. In the year 1802, the Hon. Robert R. Livingston of this State, with a discriminating patriotism meriting national reminiscence and gratitude, sent from Spain two couple of select Spanish Merino sheep, the first ever brought to this country.* Subsequently by himself,

*We beg leave here to state, that the FIRST Spanish sheep were sent to this country in 1801, by M. Delessert, of Paris, one only of which, Don Pedro, figured in the first volume of the Cultivator, page 183, lived to reach land. Don Pedro was kept some time in Ulster county, and afterwards by Mr. Dupont, in the State of Delaware.

Col. Humphrey, Gen. Derby, Consul Jarvis and others, the country was supplied with Merino sheep.

Manufactories were now established, and the production of fine wool promised to be a lucrative business. But these prospects were soon dissipated, and upset, by the versatility of our own government. And the choice Merino buck fell from the exalted sale of $1,400 to the degraded estimate of 2 or 3 dollars. In the year 1813 I paid $150 for a Paulaur buck, and $100 each for six ewes. In the year 1827 I bought the remnants of some choice Escurial flocks, which had formerly been purchased at $200 each, for $2.50 each. And such was the depressed price of wool, that I purchased in the year 1826, cash payment at auction, a package of full blood Merino wool, at 25 cts. per lb., and after keeping it two months, I sold it on a credit of 90 days, for 24 cts. per lb.

This extreme vascillation of public sentiment, prostrated the whole interest. Many individuals were involved in total ruin; and small proprietors abandoned the concern. A few, relying on the sufficiency of their own pecuniary resources, on the intrinsic worth of the animal, the estimate of the whole civilized world, for centuries, of its value, only awaited a more protracted exit. From all this, it is plain that there was almost an entire abandonment of the Merino in this country.

The result of scientific investigation is, that a conclusion cannot be come at without the whole sheet of facts, embracing the subject in all its connexions.

The establishment of facts by experiments involves almost infinite nicety; requiring the whole amount of human discrimination --unshackled by subsisting theories, preconceived notions, and pride of popularity. An opinion is a mere nullity, separated from the considerations necessary for its formation. And the experience of every day exhibits the imperfection and fallacy of experiments and opinions. Not only the preceding narrative, but the most scrupulous investigation, will concur in the establishment of the subsequent statement.

The Spanish Merino has hitherto furnished the best material for the fabrication of fine woollen clothing; and as a natural consequence and matter of fact, has rendered all Europe tributary to her production.

This sheep being transported to Saxony and France, and there received as an acquisition, its peculiar character duly appreciated, nursed with care, preserved in its purity, proved in its excellence—must stand pre-eminent.

Sheep are a defenceless and delicate animal, the prey of wolves and dogs, and subjects of disease; therefore in a domesticated state, requiring the protecting and fostering care of man. And in following the destinies of their itinerant master, are necessarily subjects of acclimation.

The Spanish Merinos, with their gradations, have passed this ordeal in our country. The Saxony Merino have not in point of time been allowed the same courtesy and indulgence.

Who then, permit me to ask, who, in defiance of the light of science, and the experience of the world for a century, will be disposed to retrograde? Now what shall we do with this chimney corner and barn yard phrase, "*old fashioned Merino?*" I am as fond of antiquity as any one else, but I am unwilling to indulge this taste, at the sacrifice of a distinctive perception of things.

F.

Wool, the coat of the sheep, will be the subject of the next No.

P. S.—Permit me to commend the letter of Leonard Jarvis, Esq., in the last Cultivator, from the New-York Farmer, written with much ability and great fairness. It is from such sources that we are to take information. For scientific examination and investigation cannot be profitably prosecuted in an obstinate and controversial way.

"But man we find the only creature
Who, led by folly, combats nature;
Who, when she loudly cries, forbear—
With obstinacy fixes there." SWIFT.

From the New-England Farmer.

ATTENTION TO STOCK.

Care and skill are as indispensable as industry to success in the pursuits of the husbandman; and diligence will be of little use, if not directed by knowledge and good sense. An apparently trivial mistake, or want of attention to little but indispensable things, may rob labor of a great part of its efficacy, and seem to show that there is some mistake in the wise saying that "the hand of the diligent maketh rich." In fact, it is vain to *work hard* unless we *work it right*. This is the reason that the stock of some hard working farmers always appear in poor condition, notwithstanding they may be liberally supplied with fodder of the best quality.

Cattle must not only be well fed, but must have their food in due season; and likewise good water at command, and dry lodging. "Nothing," says an old English writer, "in winter, beats out cows and oxen, or makes them pitch [fall away] more, than their being WET ON THEIR BACK AND LOINS; for cattle carrying their hides wet, day after day, is as bad to them as it would be to us to wear wet clothes. The same injury arises to poor straw fed cattle, working in wet weather; one day's work in such case injuring them more than three of equal labor in dry weather."

"Cattle well *summered*," says Mr. Lisle, "are half *wintered;* that is to say, cattle going to their winter's quarters in high condition, will preserve a good plight throughout the winter; whereas such as have been fed upon short commons during the summer, and go to hay in a weak condition, are liable to become worse or even to drop off in the winter, particularly if it be unfavorable. Very young cattle and old cows are the most dangerous stock under these circumstances." Mr. Lawrence, in commenting on this paragraph, says, "to the above well grounded position may be added: Cattle well wintered are half summered; they are able to encounter either extreme of rank and surfeiting, or low summer keeping with greater safety than weak half-starved cattle."

It is very proper, and indeed almost indispensable, that every farmer should keep an account of the time when his cows are driven to the male. Mr. Lawrence says—"The period of *gestation* with the cow having a bull calf is, according to my own account, *two hundred and eighty-seven days*, or forty-one weeks, with the variation of a few days, either way; a cow calf comes in about a week's less time." Mr. Lisle says, that a "cow should be dried within two months of her calving, as to milk longer most necessarily impoverishes both cow and calf to a greater amount than the value of the milk."

Monk's *Agricultural Dictionary*, an English work of reputation, gives the following recipe for drying cows, which it is intended to fatten, or which have approached so nigh to the time of their calving, that it is thought improper to milk them any longer.

"Take an ounce of powdered alum; boil it in two quarts of milk till it turns into whey; then take a large handful of sage, and boil it in the whey till you reduce it to one quart; rub her udder with a little of it, and give her the rest by way of drink; milk her clean before you give it to her; and as you see need requires it, repeat it. Draw a little milk from her every second or third day, lest her udder be overcharged."

The same writer asserts, that "those cows which give the greatest quantity of milk are most profitable for suckling calves, for rich milk is not so proper food for calves as milk which is less valuable for dairy purposes. Milk which contains a large proportion of cream is apt to clog the stomachs of calves; obstructions put a stop to their thriving, and sometimes prove fatal. For this reason, calves should be fed with the milk which first comes from the cow, which is not so rich as that which is last drawn."

We have had the testimony of a very judicious practical cultivator to confirm the assertions in the paragraph last above quoted, who informs us that he has ascertained by actual and repeated experiment, that those cows which give the poorest milk for the dairy are the best for suckling calves.

"No, calf, lamb, or other animal," says Mr. Leslie, "should ever be caught *by the tail*, as it strains and inflames the loins and kidneys."

The first calf of a heifer is said to be the best for rearing; and the reason assigned is, that the dam is not reduced by milking her while she is with calf.

From the Genesee Farmer.

TRANSPLANTING FRUIT TREES.—This is commonly considered as one of the most difficult operations in the culture of fruit trees; but if properly performed is very rarely attended with any difficulty or risk. It is a very common opinion that a transplanted tree must of necessity continue nearly stationary in its growth for a year or two after the operation, or at best make but comparatively little progress. A tree, however, *properly* transplanted, will experience very little check in its growth, and often apparently none. Hence, the very great importance of the operation being well understood. Much has been written in explanation of the theory of successful transplanting; but we merely intended here to give a brief description of the practice which experience has proved to be uniformly attended with success, and the most obvious principles on which it is founded.

There are two great points to be observed in removing trees from the soil; first, to preserve the spongioles uninjured; and secondly, to prevent evaporation, by which the tree becomes dry, and if carried to excess, beyond recovery.

1. *Preservation of the Spongioles.*—These are the minute spongy extremities of the finest fibrous or branching thread-like roots, through which, as mouths, the tree receives fluids and other nourishment from the soil, and not through the surface and sides of the roots, as is sometimes supposed. As these spongioles are exceedingly delicate in their organization, a very slight degree of violence injures or destroys them. The more carefully, therefore, trees are removed from the soil, and the more entire the fibrous roots, the greater will be the number of uninjured spongioles remaining, and better will the tree be supplied with nourishment after it is planted again in the soil. And hence the absurdity of the practice, which

has been recommended by some writers, of cutting off most of the small fibrous roots, because they cannot be easily replaced in their natural position in the soil.

2. *In order to prevent evaporation*, the roots should never be suffered to become dry, but as soon as removed from the ground, they should be enveloped in some damp substance; wetted straw serves well for a temporary protection. But when intended to be conveyed to a distance, and there is a probability of their being several days out of the ground, damp moss should be employed in packing about the roots, as straw is liable to ferment, if kept in a wet state. Previously to packing them in the moss, it is an excellent practice to immerse the roots in soft mud or a mixture of the soil and water, so as to coat their surfaces, after which dust or dry sand is sprinkled copiously over them to complete the coating.

The *holes* for receiving the trees should be dug large—not less than five or six feet in diameter, at the very least, and eighteen inches deep. The hard and sterile subsoil should be thrown out, and its place supplied with rich mould or muck. Where the holes are dug in ground in grass, the turf which is removed from the surface may be inverted in the bottoms. If manure is placed in them, it should be well rotted, and should never be allowed to come in contact with the roots, but should be placed in the bottom, at the surface, and in the more remote parts. The tree should in general be set a little deeper than it originally stood, but not more than two inches; the roots should be spread out horizontally in all directions, so as firmly to brace the trees when they become large; moderately moist and finely pulverized earth should then be gently shaken in about them, so as not to disturb the position of the fibres, until the whole is filled. Care should be taken that all the interstices among the roots are perfectly filled, so as not to leave the smallest cavities; and throwing in the earth in large quantities should for this reason be especially avoided. In order that the soil may be gently packed on every side of all the roots, it is very useful, when the soil is inclining to dryness, to pour in a quantity of water as soon as the roots are covered, and then the remainder of the earth shovelled in, which latter prevents the surface from becoming hard by baking. After the operation is finished, a stake should be set in the ground leaning towards the tree, to which it should be tied by a band of matting or of straw, to brace it firmly in an upright position.

Placing the tree leaning a little towards the south or southwest, or with the most projecting branches in that direction, will prevent the trunk being injured by the action of the rays of the sun in hot summer afternoons, an evil which is sometimes so serious as to cause the death of the tree.

Autumn is ordinarily the best time for removing trees; more time is then afforded than in the hurrying season of spring—besides which the earth becomes more settled about the roots, and new spongioles are produced in place of those which may have been destroyed, especially if the operation is not performed till late in autumn. Better trees also may be obtained in autumn than in spring after nurseries have been culled. But if tender kinds be transplanted in the fall, and particularly if they be removed to a colder section of the country, they will, from their mutilated state, be more liable to injury from frost. To those, therefore, who live remote, and are unable to obtain such trees for early planting in the spring, or those who live in the colder regions of the country, we would recommend to procure their trees in autumn, and bury the roots and a part of the stem and branches in a trench dug for the purpose, the roots being packed closely together, and the branches resting in an inclined position upon the earth; which operation is technically termed by nurserymen, *laying in by the heel*. In this way they may be effectually protected from injury from the frosts of winter.

Nothing is more common than to loose trees by transplanting; but there is no necessity for such a failure; if trees are transplanted with proper care, there will be an almost absolute certainty of their living. If, when they are taken from the earth, care is taken to remove the roots entire—to keep them fresh—and in replacing them in the soil, to pack finely pulverized earth well about the roots, preserving them in their natural position, there can be little danger of success.

But it is not only necessary the trees should *live*, but they should thrive also; and for this object, it is indispensably requisite that they should have a large deep bed of loose soil for the roots to penetrate. If the ground is of a hard or heavy nature, the holes must be made large and deep, and filled with the proper materials, for if the roots are confined in small holes dug in such ground, they will succeed little better than if planted in a small box of earth.

From the American Railroad Journal.

SOCIAL INFLUENCE OF ROADS AND RAILWAYS.

In rude states of society, there are no good roads intersecting a whole country. In consequence, different sections have no intercourse with each other; and there has existed in former ages a multitude of petty kingdoms, fifty miles square, or a hundred miles square, or larger or smaller, according to natural boundaries. These were jealous of each other. Each viewed its neighbors as strangers and enemies; and, having no commercial transactions with them, or but to a small extent, it had little temptation to avoid a state of war. Great nations were first formed where communication was easily maintained between remote places. Thus the making of good roads over the surface of the earth, has been one of the most efficient causes in forming great nations; and the formation of such great nations has destroyed jealousies and prejudices, and has put an end to hostilities between the provinces which now constitute one country, but which before were distinct kingdoms, and had their peculiar languages or dialects.

Railroads will make, in some parts of the world, as great a change in the existing state of society, as good common roads have helped to make in past centuries. They will make intercourse so easy with places two thousand miles distant, that the people of the two places will have literary, religious, social and commercial connexions with each other, too close and valuable, to allow of being interrupted by wars, without extreme necessity.

But not only may railroads be viewed as important by binding together in friendship distant countries, or remote sections of the same country; the system may be applied to the accommodation of the people scattered over the whole surface of our soil in the whole business of social life. When it is considered that as easily as a man can wheel on a common road by his own labor a single bushel of corn, he could move on a railroad, with the same rapidity, a load of more than 1200 lbs., it will appear probable that railpaths for short distances, to main railroads, will be formed for the use of men. This will be further apparent from the fact that the same power which a man exerts in going up stairs twenty feet high, would propel him forward on a level railpath nearly a mile; and if his carriage in which he moved himself weighed 500 lbs., the additional power necessary to move this, would be only that exerted by a man in raising two pounds twenty feet high, or as easily as a man can ascend a stairs twenty feet, carrying with him two pounds weight, he could propel himself in a car weighing 500 lbs., very nearly a mile. There would be a vastly greater amount of business done over the country but for distances of three, five, eight and ten miles, at which people are from the places where they might do their business.

Many articles of produce, or of the growth of the land, would be vastly more valuable to the farmer but for these short distances over which bulky articles must be carried.

The advantages of the whole public for attending higher schools, and all literary and religious meetings, are incalculably diminished by these distances.

According to Sir John F. W. Herschel, a man working eight hours a day, would exert the power of raising 364½ lbs. ten feet high each minute, or 729 lbs. five feet high each minute. But the power required to raise 729 lbs. five feet high in a minute, would carry such weight forward on a level railroad five times 240 or 250 feet, or more than a fifth of a mile. Thus a man exerting on a level railpath the strength he lays out in his ordinary labor, for only five minutes, may propel a weight of 729 lbs. more than a mile.

A man lays out his whole ordinary strength in walking a mile in fifteen minutes, without any load; but on a level railpath he could, with the same application of power, move a weight of 729 lbs. three miles in the same time. But if we should take all seasons of the year into view, it would be found that in the country a man would as readily do common labor for twenty minutes, as walk one mile; for he must sometimes wade or wallow in snow or mire, when a walk of one mile would be equivalent to half an hour's labor.

Could the country to any great extent be intersected by such railpaths as are here referred to? What then are the difficulties?

1. The cost—a very important consideration. But the cost would be very small, no more strength or solidity being required in the structure than to support at one point, or under one car, about 2000 lbs.

2. Deep cuttings. These would never be needed; for the railpaths are supposed to have but a few miles to run before they enter into larger railroads; and these railroads will be along the vallies of rivers, or at their level at least; the railpaths will easily fall into them; and if they must be extended several miles to avoid crossing a hill, as they are cheaply made, the increased length is no great evil.

3. Inequalities of ground. As to a great part of the minor business and intercourse of the agricultural districts, the course of trade, &c., is controlled very much by the lay of the land. Between two villages five or six miles apart there is a very high hill, or a deep valley and a tract of barren land. This hill, waste, or valley becomes a natural boundary between the people on each side as to social, religious and commercial affairs. Thus the business, social, and ecclesiastical connexions of towns depend very much on their being on a great or easy

road, or natural channel of conveyance. If railpaths should be adapted to the inequalities of the ground, so that a level should be preserved, business would flow into these paths just as has been always the case in opening new and better roads; and if the existing course of business should be in some instances greatly disturbed, it would only be a temporary derangement.

4. Want of business. The internal travelling and transportation, social, religious and commercial, in nearly every town in the country, is, I think, from five to ten times all the travelling and transportation it makes out of the territory of the town, even over all the roads and railroads in the nation. There will not then be a want of business for a few judiciously selected railpaths through every well settled township in the Union.

5. Want of funds to build them. They must be free, and therefore be made by public corporations, towns, cities, counties, or states. If these do not choose to make them, private corporations will make them, for the revenue which they will see a fair prospect of deriving from them. When they have thus succeeded in the most promising routes, other routes will be commenced, and the system will extend. Such a system, if successful, or if only partially practicable, would greatly augment the business and revenue of the main railroads. They would be to these roads like the rills and brooks and smaller rivers to a noble flood that still swells as it receives one tributary after another, and pours its full tide into the ocean by some great city. This, though it may be rich and powerful and proud, owes all its commerce to the labors of farmers and mechanics, scattered widely, whose productions collected in small, and then in larger and larger quantities, till they swell to the mass of goods that fill a great centre of trade.

PUBLICOLA.

The foregoing communication is well worth a perusal. The idea thrown out is a novel one, yet deserving of notice. We wish all manner of prosperity to "*railpaths.*"

SUMMARY.

FAT COWS.—Mr. Rufus Smith, of Hatfield, slaughtered two cows last week, pasture fed, which weighed two thousand and seventy-five pounds! That aint slow.—Mr. Joseph Bemis of Chester, stuck a baby pig, the other day, aged nineteen months, which weighed six hundred and twenty-three pounds! They go the "entire swine" always in Chester. [Northampton Courier.]

SHEEP.—We noticed last year the sale of some fine wethers, from the flock of the Messrs. Hallock, of Milton, Ulster county. These wethers were of the New Leicester or Bakewell breed, and sold at 12 dollars per head. This was considered by many as a very extraordinary price, and most of our farmers were ready to conclude there could be no more improvement. Such, however, is not the case, as in January last these gentlemen sold 20 of the same breed to Mr. R. Anson, drover, at 15 dollars per head.—On this price Mr. Anson obtained an advance in New-York, having disposed of them all at from 18 to 20 dollars a head.

We understand that Mr. Charles Peters, of this county, has offered the Messrs. Hallock 40 dollars a head for two sheep weighing about 200 pounds apiece. Even these are inferior to some, the Messrs. H. intend to have ready for market next fall.—[Poughkeepsie Journal.]

THE SUGAR CROP.—A respectable planter with whom we have conversed, informs us that the sugar crop will fall greatly short of that of the last year—this has been occasioned, he states, by the heavy rains and changeable weather during the summer and fall months: and in confirmation of which he adds, that on one of the finest sugar estates on the coast, if a sufficient crop is yielded to pay the expense of agriculture, is all that can be expected.—[New-Orleans Courier.]

SLEEPER'S PATENT CORN MILL.—We were gratified yesterday in witnessing the operation of one of these newly invented mills, in the rear of Mr. Sowle's Cabinet Warehouse, Purchase street. It is exceeding simple in its construction, the grinding being effected by means of three iron cylinders, which are kept rapidly in motion by means of a steam engine of moderate power. We were told that it would easily accomplish the grinding of eight bushels per hour, with the power ordinarily applied.—Mr. Abraham Russel, Jr. is an agent for the sale of these mills in this town and vicinity.—[New Bedford Mercury.]

FLAX SPINNING.—A letter from Lille says—"A great establishment is now erecting in this city. It is intended for spinning flax by machinery. Thus the great problem is solved, for which the Emperor Napoleon offered a reward of a million of francs, and we shall now enter into competition with the English, who eagerly buy up all the flax of our country."—[Brussels paper.]

TO REMOVE SPOTS OF GREASE OR PITCH FROM WOOLEN CLOTH.—In a pint of spring water dissolve an ounce of pure pearlash, adding to the solution a lemon cut in small slices. This being properly mixed, and kept in a warm state for two days, the whole must be strained and kept in a bottle for use. A little of this liquid poured on the stained part, is said instantaneously to remove all spots of grease, pitch or oils, and the moment they disappear, the cloth is to be washed in clear water.—[Glasgow Mec. Magazine.]

A few weeks since we copied an article, stating that common cranberry juice externally applied to Ring Worms, would perfect a cure. Since that time, a person in our office, subject to this distemper, has applied the specific with entire success.—[Syracuse Standard.]

RECIPE FOR CURING BEEF.—A friend has handed us the following recipe for curiug beef. To every 100 lbs. of beef add a pickle compound of 9 lbs. of salt, 3 qts. molasses, ¼ lb. saltpetre, and 2 oz. salaratus. The ingredients should be boiled together and skimmed, and added to the beef when cold Beef cured in this way will be perfectly sweet, tender and good.—[N. H. Spec.]

The Erie Gazette states that a specimen of mineral coal, measuring about eleven and a half solid feet, and weighing nine hundred pounds, has been sent to that place from the coal mines of the Shenango, about eighty miles from that place, and on the line of the proposed Canal. The quality is pronounced of the first order, and the quantity inexhaustible. Should this be the case, and the coal can be afforded at a fair price at Erie and elsewhere, it will yield no trifling addition to the means of navigating our lakes by steam.

The distillation of palatable and fresh water at sea has been effected by P. Nicole, of Dieppe, by simply causing the steam arising from boiling sea water in a still to pass through a stratum of coarsely powdered charcoal, in its way to the condenser or worm tub.

The manufacture of cut glass has, within a few years, much increased and improved in this country, and articles little if any inferior in quality to the English, are turned out from our factories in abundance. The most extensive establishment is at Sandwich, Massachusetts, a statistical description of which is given in the Barnstable Patriot. This one factory consumes *weekly* of pig lead, first manufactured into oxide of lead, ten thousand eight hundred pounds; pearl-ash, eight thousand five hundred; saltpetre, fourteen hundred; silex, ten tons; and clay, of the finest kind, five tons. From this it will be seen what heterogeneous materials are combined to produce one of the most beautiful products of human art.

A large portion of the glass manufactured in Sandwich finds a ready sale in foreign countries. A set of rich cut glass is now in hand for the King of Muscat. The demand for cut glass door knobs,—a great improvement upon the brass or plated,—is yearly increasing. To give a still fuller idea of the extent of this factory, it is stated that the making of packages keeps many hands employed, six thousand large casks being quired annually. Two hundred tons of packing straw are used every year. Two packets are constantly plying between the factory and Boston transporting glass ware. The number of persons employed may be inferred from the fact, that the families attached to the factory consume in a year eighteen hundred barrels of flour, and nearly as much corn, besides thousands of bushels of potatoes. Four or five vessels find constant employment in bringing Richmond coal to the works.

STEAM VS. WATER.—The Portsmouth Journal makes a statement, based upon actual experiment, by which it appears that the manufacture of cotton by steam mills, in seaport towns, may very successfully compete with the best water power in the interior. The cost of operating a mill at Lowell, of 10,000 spindles, is put down at 150 dollars per week; that of a steam power, at 125 dollars—making a difference in favor of steam of 25 dollars per week.

STEAMBOATS.—By a communication in a late number of the Pittsburg Gazette, we learn that at that place, during the last year, 46 new steamboats have been built, with an aggregate tonnage of 8,200. This, we believe, is a larger amount than has been built by any other city of the Union in the same time.

RAILWAY IRON—*Advance in Prices.*—We have been favored with a letter from GERARD RALSTON, Esq. who was travelling in Great Britain, from which we learn that a great advance has taken place in the price of Railroad Iron. It could hardly be otherwise when so many Railroads are in course of construction.

WILLIAM ATKINSON, Rochester, New-York, Real Estate Broker, buys and sells on commission, FARMS in the county of Monroe, and attends to the collection of Mortgages.

Persons desirous of purchasing Farms in that fertile region, will do well to call on him. *6t

132 NASSAU STREET,
NEW-YORK, MARCH 31st, 1838.

A CARD.

The NEW-YORK FARMER for March *should* have appeared on the *first*, instead of the *thirty-first*, of March. The reason *why* it is thus delayed, has been assigned in previous numbers—and need not here be repeated. It may not, however, be improper to say that renewed efforts will be made to bring the work out on the first of the month, as formerly, instead of at a period so late as has been unavoidable, since the destruction of the office, by the late calamitous conflagration. Renewed efforts will also be made to render the work more valuable and interesting. No ordinary expense will be spared to effect that object.

Herewith is given a list of payments made for the Farmer, mostly in advance, for the *current* year. If there are any *omissions of credit*, in consequence of the destruction of a part of my books, and the confusion into which the office was thrown, and for a long time remained, I ask, should not a *correction* of the error appear in the *next number* of the Farmer, for *a statement of the date, and signature on the receipt*—that I may make the books correspond. Similar omissions, if any, I hope to avoid hereafter.

To those who have paid arrearages, and those who have so promptly and so generously paid IN ADVANCE, I tender my gratitude—and to those who have not yet done so, I will merely say that the amount due, if received *within the month of April*, will do much towards relieving me from serious embarrassments, arising from the late destruction of my property.

Let every reader give the subject a moment's reflection, and consider the case his own, and I shall not have occasion to refer to it again.

☞ As my postage bill is very heavy—not *less* than $200 a year—subscribers are requested to *pay the postage*, or remit through the Post Master.

D. K. MINOR.

James Wadsworth, Geneseeo, N. Y., Jan. 1, 1838.
E. Kirby, Brownsville, N. Y., Jan. 1, 1838.
John Cook, Smooth Rock, M. T., Jan. 1, 1838.
M. Foulon, New-York City, April 1, 1838.
E. Tatnall, Wilmington, Del., Sept. 1, 1837.
Solomon Lathrop, West Springfield, Mass., Jan. 1, 1837.
N. L. Phelps, Farmington, Conn., Jan. 1, 1837.
R. Weston, Sandy Hill, N. Y., Sept. 1, 1836.
T. C. Smith, Smithtown, L. I., N. Y., Jan. 1, 1837.
A. Taylor, Mishawaka, M. T., Jan. 1, 1836.
C. D. Smith, P. M., Marshall, M. T., Jan. 1, 1836.
Horatio Hickock, Marshall, M. T., Jan. 1, 1837.
Sam'l Field, Northampton, Mass., Jan. 1, 1837.
Daniel Young, Oyster Bay, L. I., N. Y., Jan. 1, 1837.
J. C. O'Reiley, Columbia, Tenn., Jan. 1, 1837.
D. C. Wallace, Newark, N. J., Jan. 1, 1837.
Dr. S. Moses, Hoosick, N. Y., Jan. 1, 1837.
J. L. Thompson, Setauket, N. Y., Jan. 1, 1837.
Chas. Kelley, Huntington, L. I., N. Y., Jan. 1, 1836.
P. B. Lowe, Centerville, N. Y., July 1, 1836.
A. M. Underhill, Poughkeepsie, N. Y., Jan. 1, 1837.
J. Wells, North Chili, N. Y., Jan. 1, 1837.
J. H. Bartley, St. Andrews, N. Y., Jan. 1, 1837.
L. Webster, Plainfield, N. J., Jan. 1, 1837.
H. L. Clark, Brooklyn, L. I., N. Y., Jan. 1, 1837.
C. S. Phelps, Oswego, N. Y., Jan. 1, 1837.
J. D. L. Verplanck, Fishkill, N. Y., Jan. 1, 1837.
W. B. Wright, Rome, N. Y., May 1, 1837.
R. J. Cromeline, Brooklyn, N. Y., Jan. 1, 1837.
D. I. Anderson, Hackensack, N. J., Jan. 1, 1837.
W. A. Underhill, Cortlandtown, N. Y., Jan. 1, 1837.
J. G. Blauvelt, Blauveltsville, N. Y., Jan. 1, 1837.
I. M. Dederer, Blauveltsville, N. Y., Jan. 1, 1837.
W. W. Gorham, Canandaigua, N. Y., Jan. 1, 1837.
C. S. Green, Lawrenceville, N. J., July 1, 1836.
Richard Biddle, Pittsburgh, Pa., May 1, 1837.
G. Wendell, Cambridge, N. Y., Jan. 1, 1837.
Jos. Cooke, Bridgeport, Conn., Jan. 1, 1837,
H. Rogers, Truxton, N. Y., Jan. 1., 1837.
Rev. S. R. Crane, Milton, V. T., Sept. 1, 1836.
R. T. Auchmuty, Tivoli, N. Y., Jan. 1, 1837.
David Brown, Lee, N. Y., Jan. 1, 1837.
Samuel Hunt, Lawrenceville, N. Y., Jan. 1, 1837.
J. G. Garber, Columbia, Pa., July 1, 1837.
J. L. Wright, " " Jan. 1, 1837.
T. Carter, East Bethel, Me., Jan. 1, 1837.
C. Sleight, Sagg Harbor, N. Y., Jan. 1, 1837.
P. Dodge, Salem, Mass., Jan. 1, 1837.
Thomas Dugdale, Burlington, N. J., Jan. 1, 1837.

W. Atkinson, Rochester, N. Y., advertising, $5.
Library Company, Harrisburg, Pa., Jan. 1: 1837.
Horace Wells, Oxford, Ohio, Jan. 1, 1837.
J. F. Bittell, Quincy, Ill., Jan. 1, 1837.
C. Morrill, Ludlowville, N. Y., Jan. 1, 1836.
D. Fenton, (2 copies,) Trenton, N. J., Jan. 1, 1837.
C. W. Wever, Frederick, Md., Jan. 1, 1837.
Boyd Smith, Nova Iberia, La., Jan. 1, 1837.
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L. Powbell, Bottlehill, N. J., Jan. 1, 1837.
Wm. Pitkin, Rochester, N. Y., Jan. 1, 1837.
S. B. Gardner, East Hampton, L. I., Jan. 1, 1837.
J. M. Redmond, Paterson, N. J., Jan. 1, 1837.
J. L. Delp, Fishersville, Pa., Oct. 1, 1836.
Richard Topham, Wilmington, Del., Jan. 1, 1837.
Bryan Jackson, Wilmington, Del., Jan. 1, 1837.
Thos. Stocton, Newcastle, Del., Jan. 1, 1837.
J. H. Huffman, Pluckemin, N. J., March 1, 1837.
Elkanah Briggs, Sylvania, Ohio, Jan. 1, 1837.
Dr. B. Brewster, Preston Hollow, N. Y., Dec. 1, 1836,
Ira Bellows, Pittsford, N. Y., Jan. 1, 1837.
Francis Kain, Bronx, N. Y., Jan. 1, 1837.
Dr. B. F. Bowers, Huntington, L. I., Jan. 1, 1837.
C. S. Olden, Princeton, N. J., Jan. 1, 1837.
H. W. Clapp, Greenfield, Mass., Jan. 1, 1837.
A. L. Clarkson, Potsdam, N. Y., Jan. 1, 1837.
R. White, Jr., Shrewsbury, N. J., Jan. 1, 1837.
H. Vanderlyn, Oxford, N. Y., Jan. 1, 1837.
B. P. Grey, Versailes, Ky., Jan. 1, 1836.
Joel Scott, Frankfort, Ky., Jan. 1, 1837.
Dr. S. R. Smith, Statten Island, N. Y., Jan. 1, 1837.
R. D. Arden, West Point, N. Y., Jan. 1, 1837.
Jas. Wickens, Sim Coe, U. C., Jan. 1, 1837.
J. Hasbrouck, Kingston, N. Y., Jan. 1, 1837.
E. P. Livingston, Clermont, N. Y., Jan. 1, 1837.
John Kean, Elizabethtown, N. J., Jan. 1, 1837.
J. Strachan, Waterford, N. Y., Jan. 1, 1837.
A. C. Lansing, Lansingburgh, N. Y., Jan. 1, 1837.
A. Walsh, Lansingburgh, N. Y., Jan. 1, 1837.
D. Mowry, Millvill, Mass., Jan. 1, 1837.
Leman Stone, Derby, Conn., Jan. 1, 1837.
Thos. M. Adams, Edwardsburgh, M. T., Jan. 1, 1837.
Wm. Nelson, Peekskill, N. Y., May 1, 1837.
E. Torry, Akron, Ohio, Jan. 1, 1837.
A. Parsons, Patterson, N. J., Jan. 1, 1837.
Hon. H. Clay, Lexington, Ky., Jan. 1, 1836.
Richard Morrell, Brooklyn, N. Y., Jan. 1, 1837.
H. S. Randall, Cortlandville, N. Y., Jan. 1, 1837.
Wm. M. Ross, Metuchin, N. J., Jan. 1, 1837.

R. Suckley, Rhinebeck, N. Y., Jan. 1, 1837.
J. V. H. Clark, Manlius, N. Y., Jan. 1, 1837.
George Faile, East Chester, N. Y., Jan. 1, 1837.
W. Nichols, Jamaica, L. I., Jan. 1, 1837.
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Henry Powie, Cayuga, N. Y., Jan. 1, 1837.
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Thomas Helme, Miller's Place, L. I., Jan. 1, 1837.
C. Dunham, New-Brunswick, N. J., Jan. 1, 1836.
P. Alling, Newark, N. J., Jan. 1, 1836.
Thos. Aash, Westchester, Jan. 1, 1837.
Joseph Abell, Cazenovia, Jan. 1, 1837.
G. S. Atmore, Newbern, N. C., Jan. 1, 1837.
J. Brown, Peekskill, N. Y., Jan. 1, 1837.
Thos. Collins, Burlington, N. J., Jan. 1, 1837.
Edward Church, Northampton, Mass., Jan. 1, 1837.
John C. Conklin, Peekskill, Jan. 1, 1837.
J. Dodgeson, New-Lebanon, Jan. 1, 1837.
S. M. Edgell, Chicago, Ill., Nov. 1, 1836.
A. L. Ely, Allegan, M. T., Jan. 1, 1837.
John W. Frost, Cortland Town, Jan. 1, 1837.
G. S. Fox, West Farms, Jan. 1, 1837.
John Henry, Courtlandtown, Jan. 1, 1837.
Munro Hancock, Madison, N. J., Nov. 1, 1836.
J. E. Hollister, Mishewaka, M. T., Oct. 1, 1836.
J. W. Lincoln, Worcester, Mass., Jan. 1, 1837.
Wm. H. Leggett, West Farms, N. Y., Jan. 1, 1837.
Jarvis Martin, Salem, Washington Co., N. Y., Jan. 1, 1837.
Rev. Wm. Powell, West Farms, N. Y., Jan. 1, 1837.
W. C. Pierpont, Mansvill, N. Y., Jan. 1, 1837.
C. S. Phelps, Oswego, N. Y., Jan. 1, 1837.
E. & R. Sandford, Crane's Corners, Jan. 1, 1837.
J. D. Stagg, New Rochelle, N. Y., Jan. 1, 1837.
A. Suiter, Georgetown, D. C., Jan. 1, 1837.
S. Thayer, Eaton, N. Y., Jan. 1, 1837.
Samuel Redmond, New-York City, Jan. 1, 1837.
G. P. Shipman, " " Jan. 1, 1837.
R. Phelps, " " Jan. 1, 1837.
E. Rhodes, " " Jan. 1, 1837.
Wm. Adee, " " Jan. 1, 1837.
A. C. Zabriskie, " " Jan. 1, 1837.
G. W. Treadwell, " " Jan. 1, 1837.
Thos. Lane, " " Jan. 1, 1837.
D. W. Coit, " " Sep. 1, 1836.
J. C. Delolme, " " Jan. 1, 1837.

H. H. Schiffelin, New-York City, Jan. 1, 1837.
Joseph Pitcairn, " " Jan. 1, 1837.
H. J. Wyckoff, " " Jan. 1, 1837.
Edward Doughty, " " Jan. 1, 1837.
Samuel Jarvis, " " Jan. 1, 1837.
A. Dey, " " Jan. 1, 1837.
H. C. De Rham, " " Jan. 1, 1837.
Wm. Paulding, " " Jan. 1, 1837.
J. C. Winants, " " Jan. 1, 1837.
J. R. Murray, " " Jan. 1, 1837.
T. T. Payne, " " Jan. 1, 1837.
J. A. Willink, " " Jan. 1, 1837.
I. U. Coles, " " Jan. 1, 1837.
Jas. Rosevelt, " " Jan. 1, 1837.
Abm. Bell, " " Jan. 1, 1837.
R. C. Bolton, " " Oct. 1, 1836.
W. C. Boardman, " " Nov. 1, 1836.
A. Hamilton, " " Jan. 1, 1836.
D. W. Wetmore, " " Jan. 1, 1837.
J. M. Bloodgood, " " Jan. 1, 1836.
Isaac Fryer, " " Jan. 1, 1836.
N. Saltus, " " Jan. 1, 1836.
E. H. Pendleton, " " Jan. 1, 1837.
J. C. White, " " Jan. 1, 1837.
H. H. Elliott, " " Jan. 1, 1837.
J. Adriance, " " Jan. 1, 1837.
W. M. Cooper, " " Jan. 1, 1837.
James G. King, " " Jan. 1, 1837.
T. A. Emmett, " " Jan. 1, 1837.
C. McAuly, " " Jan. 1, 1837.
John Anthon, " " Jan. 1, 1837.
John Delafield, " " Jan. 1, 1837.
I. Foot, " " Jan. 1, 1837.
Rev. W. Creighton, " " Jan. 1, 1837.
J. Lorrillard, " " Jan. 1, 1837.
C. Baker, " " July 1, 1837.
Charles Dennison, " " Jan. 1, 1837.
Wm. T. McCoun, " " Jan. 1, 1837.
E. Curtiss, " " Jan. 1, 1837.
W. Partridge, " " Jan. 1, 1837.
J. McComb, jr., " " Jan. 1, 1837.
R. T. Underhill, " " Jan. 1, 1837.
R. Carter, " " Jan. 1, 1837.
G. G. De Witt, " " Jan. 1, 1847.
J. L. Brinckerhoff, " " Jan. 1, 1837.
J. B. Carey, " " July 1, 1836.